



State of New Jersey

DEPARTMENT of ENVIRONMENTAL PROTECTION

Division of Air Quality

Bureau of Air Permits

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HEARING OFFICER'S REPORT

Response to Public Comments

FOR

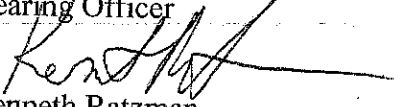
Newark Energy Center

Doremus Avenue and Delancy Street, Newark
(ESSEX COUNTY), NEW JERSEY, 07105

Program Interest (PI) Number: 08857 Permit Activity Number: BOP140001 and BOP140005

AIR POLLUTION CONTROL OPERATING PERMIT (TITLE V)

Hearing Officer


Kenneth Ratzman
Chief, Bureau of Air Permits
Air Quality Permitting Program

Date 7/2/15

HEARING OFFICER'S REPORT

List of Commenters (in the order of appearance at February 3, 2015 public hearing):

<u>No.</u>	<u>Name</u>	<u>Association</u>
1.	Augusto Amador ^[1]	Councilman, City of Newark
2.	Nancy Zak	Resident of Newark
3.	Stephane Greenwood ^[1]	Mayor's Office, Policy Advisor
4.	Doug O'Malley	Environment New Jersey
5.	Arnold Cohen	Resident of Newark
6.	Aaron Kleinbaum ^[1]	Eastern Environmental Law Center (EELC)
7.	Joseph Della Fave ^[1]	Ironbound Community Corporation (ICC)
8.	Monique Greene	Resident of Newark
9.	Jefferson Diaz	Student, Hawkins St. School
10.	Tasha Bell Carter	Newark NJ Students
11.	Deborah Pozo	Student
12.	Emily Turonis	Resident of Newark
13.	Angelina Pozo	Student
14.	Alexi Martinez	Ironbound Community Corporation (ICC)
15.	Drew Curtis	Resident of Newark
16.	Nicky Sheats ^[1]	Center for the Urban Environment Thomas Edison College, NJ Environmental Justice Alliance (NJEJA)
17.	Danielle Moeser	Resident of Newark
18.	Michael Molina	Ironbound Community Corporation (ICC)
19.	Kia Meyer	Resident of Newark
20.	Jenae Gibbs	Resident of Newark
21.	David Yennior	Sierra Club
22.	Ankor West	Ceramics and Architecture
23.	Joseph Nardone	Ironbound Community Corporation (ICC)
24.	Leonard Thomas ^[1]	Ironbound Super Neighborhood Council
25.	Andre Johnson	Ironbound Community Corporation (ICC)
26.	Anthony Ruiz	Essex County College
27.	Molly Greenberg	Ironbound Community Corporation (ICC)
28.	Iserra Ramirez	Ironbound Community Corporation (ICC)
29.	Olga Morales	New Labor
30.	Arheam Carter	Student, Hawkins St. School
31.	Munira Bohami	Resident of Newark

List of Commenter(s) from whom written comments were received:

32.	Laura Tracy-Coll	Sierra Club
33.	Jeff Tittel	Sierra Club
34.	Joseph Della Fave - Petition	Ironbound Community Corporation (ICC)
35.	Lane Free	Resident of Newark
36.	Anna Ward	Resident of Newark
37.	Franklin Murphy	Resident of Newark
38.	Cynthia Mellon	Resident of Newark
39.	Wander Richardson	Resident of Newark
40.	Gee Cureton	Resident of Newark

List of Commenter(s) from whom written comments were received after the close of the public comment period (February 17, 2015):

41.	Hellane Freeman	Resident of Newark
42.	Kenneth Louis	City Clerk, Newark

The individuals who made the following comments are indicated by the number in parenthesis at the end of the comment. The number corresponds to the number from the above list. Commenters noted with the superscript [1] also submitted written comments to the Department.

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A) Emission Increase Comments

- 1) **Comment:** Several commenters expressed concern that Newark Energy Center (NEC) plans to make changes to their stack heights and diameters. (1, 35, 39, 40,41) One commenter stated that lowering the stacks will only worsen the emissions. (17) One commenter stated that the stacks need to be within legal limits. (5) Another commenter stated that the only reason the stack heights are being reduced is to save money. (23)

Response: The Department of Environmental Protection (Department) is not approving a reduction in stack height for the emergency generator and fire pump as requested by permit activity (modification) BOP140001. These stacks will remain at 50 feet consistent with the current permit requirement.

- 2) **Comment:** Several commenters expressed concern that NEC plans to make a 400% increase in the amount of chemicals added to the cooling tower water. (1, 35, 39, 40,41) Commenters stated that the proposed modification could allow four times the amount of chemicals to be released into this community, as compared to that allowed by the current permit. (21,33) One commenter stated there is no clear information about how sulfuric acid will be treated during and after its use in the cooling tower; given the significant increase in the use of this chemical in the water and the proximity of this facility to the Passaic River, it is important to the City to understand how this toxic wastewater will be discharged safely. (3) One commenter expressed concern that no support is provided to demonstrate that all of the sulfuric acid will chemically react before it leaves the cooling tower or that other chemicals will be prevented from contributing to air emissions. (6) Several commenters question why NEC, despite having already gone through a rigorous permitting process, discovered that it needs increase in chemicals to treat the same water that it previously analyzed. (2,6,7) Several commenters stated that the increase in chemical additives, including sulfuric acid, to the cooling tower, increases chemical transportation, storage, and use to 2,267 tons annually. These commenters stated that more information is needed to understand the potential impact of this increase on the community. (2,6,7) One commenter stated that NEC should provide information regarding the frequency at which they will use the maximum allowable amount of chemicals and how they are planning to track this information. (7) Commenters stated that sulfuric acid, heavy metals like lead, algaecides and fungicides, and volatile organic compounds (VOC) are dangerous to human health and will be released from the chemical drift coming from the cooling tower. These commenters stated that companies that make cooling towers warn that the chemical drift could kill plant life near the tower, and the commenters ask what could that mean for people living nearby. (21,33)

Response: The additional water treatment chemicals proposed by permit activity (modification) BOP140005 would increase the amount of chemicals permitted for use in treating the cooling tower water. However, this change, which is a result of additional sulfuric acid needed to maintain the proper

pH level, will not increase the emission of chemicals from any permitted sources at NEC. All of the sulfuric acid that is added to the cooling tower water will react to raise the pH of the water, leaving no sulfuric acid in the cooling tower water to be disposed of. The proposed permit contains a permit condition (U2, OS1, REF #6) requiring the pH of the cooling tower water to be monitored continuously and to remain within the range of 6.0 to 10.5. If the pH of the cooling tower water drops below 6.0, the required monitoring will sound an alarm and the sulfuric acid feed will cease. Therefore, the pH of the cooling tower water will not reach a level (4.3 or below) where "free" sulfuric acid can exist in the water and be emitted into the air from the cooling tower.

The product of this reaction, salts, would not impact the total dissolved solids (TDS) or resulting particulate emissions (TSP, PM10, and PM2.5) because TDS in the cooling tower water is an operating parameter controlled by the facility and maintained under the permit limit (U2, OS1, REF #2) of 4,150 mg/liter, which is not changing. The water in the cooling tower is recirculated, and due to evaporation the TDS concentration in the cooling water is normally elevated with respect to the treated makeup water from PVSC. NEC maintains the proper TDS concentration by sending water back to, and obtaining makeup water from, PVSC. Since the TDS in the cooling tower water will be maintained at the same level through the use of makeup water, there will be no increase in particle emissions that originate from the dissolved solids in the droplets of water that escape the cooling tower. Compliance with the TDS limit is demonstrated by analysis of a sample of the circulating water taken each month. Any wastewater from the cooling tower will be returned to and treated by PVSC before being discharged into nearby waterways.

The permit also contains an hourly, as well as an annual, emission limit for TSP, PM-10, and PM-2.5 (hourly limits at U2, OS1, REF #3, 4, and 5 respectively; annual limits at U2, OS Summary, REF #3, 4 and 5 respectively). Compliance with the hourly emission limits is based on calculations made each month, which are based on the measured value of TDS. Compliance with the annual emission limits is based on calculations each month, which are based on the sum of the total emissions from the 12 most recent calendar months. The previous operating permit required calculations to be performed annually in order to demonstrate compliance with the annual TSP, PM-10 and PM2.5 emission limits. As explained in the "Department Initiated Changes Section", the permit has been changed to require calculations to be performed each month in order to demonstrate compliance with these annual emission limits. This change has been made in order to make this monitoring requirement consistent with the monitoring requirements for the facility wide annual TSP, PM-10 and PM2.5 emission limits in the operating permit (GR1, REF #3, 4, and 5).

In September 2014, NEC submitted calculations, as part of the permit application, in response to a Department request, showing the total amount of chemicals that would be needed to treat the cooling tower water, as a basis for the requested increase in water treatment chemicals. NEC provided an analysis to the Department as well as to Eastern Environmental Law Center (EELC) in November 2014,

in response to requests received from EELC. This analysis explains that additional water treatment chemicals are needed due to the higher level of alkalinity of the Passaic Valley Sewerage Commission (PVSC) grey water effluent being used as cooling tower makeup water at NEC. The alkalinity of the grey water is weather dependent and varies seasonally, and NEC determined additional water treatment chemicals are needed to treat water with a higher level of alkalinity due to seasonal fluctuations. In this analysis, NEC also provided a Material Safety Data Sheet (MSDS) for each chemical.

In a November 2014 letter, NEC informed the Department and EELC that they anticipate receiving up to a total of 6-7 truck deliveries per month for all necessary chemicals. The operating permit (U2, OS Summary, REF #8) requires NEC to monitor the quantity of chemicals that are used continuously and to record the quantity used each week, in order to demonstrate compliance with the annual permit limit for total chemicals added to the cooling tower water.

With regard to concerns raised about VOC, VOC emissions are not expected from cooling towers at power plants. VOC emissions might be expected from cooling towers used in refineries and chemical plants, where the circulating water is used to cool down the process stream. With regard to algaecides and fungicides, a small amount of these cooling tower water treatment chemicals would be contained in water droplets in the drift. It is unlikely that these chemicals would have any effect on plant life or people living nearby because large droplets, which are those that would tend to settle to ground level, would be removed by the cooling tower's drift eliminator before they are emitted. None of the algaecides or fungicides will be emitted at levels above the reporting thresholds for air permits. With regard to metals such as lead, PVSC monitors for numerous pollutants in its discharge, including metals. After reviewing data from January 2008 to March 2013, mercury and lead were not found to be in PVSC's effluent, which is used for cooling water. Only copper, nickel and zinc were found to be discharged above detection limits in the effluent. The data for copper, nickel, and zinc was at levels below those that would necessitate water quality based effluent limitations, and would also not be emitted at levels above the reporting thresholds for air permits.

As explained above, none of the cooling tower water treatment chemicals will be emitted at levels above the reporting thresholds for air permits. Please see response to comment A7 regarding the potential for emission of HAPs from the cooling tower.

- 3) **Comment:** One commenter asks what proof do we have that the requested changes to the height, diameter, and location of the stacks won't increase health risks for residents and those who work nearby, since the emissions will be closer to the level where people breathe? (38)

Response: Please see response to comment A1 which states the permitted stack heights will not be decreased.

- 4) **Comment:** One commenter stated that the purpose of a stack is to get the pollution away from its source and one of the reasons this was supposed to be a high stack was to prevent high concentrations of pollutants in the Ironbound; now NEC wants to lower the stacks and the Department says this change won't make a big difference. The commenter stated that when the stack is lowered, the smoke pollution will increase not in an additive way but in a geometric way - it is much worse. (24)

Response: Please see response to comment A1 which states the permitted stack heights will not be decreased.

- 5) **Comment:** Commenters stated that NEC's application (June 17, 2014 letter to Mr. Frank Steitz, DEP) indicates that the modifications to the stack dispersion parameters will result in increased ambient concentrations of PM_{2.5}, PM₁₀ and NO₂ and that these increases may result in detrimental health impacts among Newark residents. (6,16) One commenter stated that this statement is somewhat at odds with an NEC claim that the quantity of emissions will not increase. This commenter stated that the most logical conclusion is that the changes to stack configurations will cause increased ambient concentrations. (16)

Response: Please see response to comment A1 regarding changes to the stack configurations.

- 6) **Comment:** One commenter stated that nearly every county in NJ, including Essex County, fails on smog and ozone pollution and that this plant will increase the levels of air pollution we are going to see here. (4)

Response: New Jersey regulation N.J.A.C. 7:27-18 required NEC to obtain emission offsets to compensate for its proposed NO_x and VOC emissions, prior to startup of the facility. NEC was required to obtain 1.3 tons of NO_x offsets for each ton of NO_x they are permitted to emit, and 1.3 tons of VOC offsets for each ton of VOC they are permitted to emit. This offset ratio provides the required net air quality benefit for the nonattainment area. NEC obtained the required offsets in 2012 (please see response to comment K1 for more information regarding the offsets obtained). The proposed permit modifications do not allow any increase in emissions from NEC and therefore no additional offsets are required by N.J.A.C. 7:27-18.

Please see response to comment A1 and A2 regarding increases in pollutants resulting from these permit changes.

- 7) **Comment:** One commenter stated that more information is needed to determine whether the addition of new chemicals involves the use or storage of hazardous air pollutants (HAPS) and whether there are impacts to the facility's control requirements. (6)

Response: NEC provided the Material Safety Data Sheet (MSDS) for each chemical which they intend to use to treat the cooling tower water to the Department as well as to EELC in November, 2014. These MSDSs document that none of the proposed chemicals are HAPs.

- 8) **Comment:** One commenter stated that the change that is being considered significant by the Department is the quadrupling of the amount of sulfuric acid to be used to treat the wastewater that will circulate in the cooling tower; this significantly increases the volume of this dangerous chemical being transported, stored, used, and disposed of on site. The commenter further stated that while there is a facility wide sulfuric acid emission limit of 10.57 tons per year in the operating permit, which will not be increased by the pending modifications, there do not appear to be any reporting or record keeping requirements associated with sulfuric acid mist emissions, these are based only on a manufacturers' guarantee. This commenter also stated that there are no requirements in the permit associated with restricting the potential for off-gassing of sulfuric acid in the cooling tower (3)

Response: Permit condition IS3, REF #10 requires NEC to determine the sulfuric acid emissions from the storage tank each month, using USEPA Tanks 4.0.9d software. Permit condition U1, OS Summary, REF #42 requires monthly calculations to be performed to determine the total sulfuric acid emissions from the turbines, duct burners and auxiliary boiler. Permit condition GR1, REF #5 requires monthly calculations to be performed to determine the sum of all sulfuric acid emissions from the facility, in order to demonstrate compliance with the facility wide cap of 10.57 tpy. The boiler was inadvertently left out of this last calculation in the draft permit but has been added in to the proposed permit. Each of these permit conditions require monthly recordkeeping of the sulfuric acid emissions.

As explained in response to comment A2 the permit contains a limitation on the pH of the cooling tower water which eliminates the potential for off-gassing of sulfuric acid in the cooling tower.

- 9) **Comment:** Several commenters expressed concern that modifications to NEC's operating permit (permit activity (modification) BOP140001 and BOP140005) threaten to significantly increase air pollution for the Ironbound, an Environmental Justice community which is already classified as a non-attainment area under the Clean Air Act. (21,33, 40)

Response: The proposed permit changes will not result in any increase in the amount of chemicals that will be emitted from NEC. Please see response to comment A1 regarding pollution increases from BOP140001. Please see response to comment A2 regarding pollution increases from BOP140005.

10) **Comment:** One commenter stated that approving these changes would result in a large increase in toxic chemicals concentrated in a neighborhood already burdened by pollution from trucks, PVSC, Newark Port and Newark Liberty Airport. The commenter requests that the Department review this application with a sense of fairness and consideration for the health of the residents of the City of Newark, in particular the Ironbound Section of the City, and reject any plan which results in the emission of more carcinogens and contaminants into the air. (42)

Response: The changes that are being approved will not allow any additional emissions to be emitted by the NEC facility. Please see response to comment A2 regarding the effects of NEC's request to increase the amount of chemicals used to treat the cooling tower water. When reviewing an application, the Department ensures that the application complies with all applicable State and Federal air quality rules and regulations. This application demonstrated compliance with all applicable requirements.

11) **Comment:** Commenters stated that the people of Newark have already suffered with a disproportionate share of air pollution with the incinerator, three power plants, emissions from trucks and traffic on the Turnpike and Route 280 and numerous toxic and industrial sites. These commenters stated that Newark communities have been overburdened with air pollution, which is 1000 times health based standards, increasing risks for cancer. (21,33) Another commenter stated that increasing air permits in the Newark Area is detrimental to the residents of Newark and that it is no good that the Department is increasing the existing permits, like the Covanta Garbage Incinerator. This commenter stated that the capacity of this facility must be decreased in order to meet the allowable limits listed on the air permit, not increase one single chemical or shorten one single stack. (32) Another commenter urged the Department to work with the City of Newark and other partners to mitigate the impacts of projects such as NEC and ultimately to move away from such projects by finding ways to reduce energy demand and making our energy systems more efficient and less polluting so that they do not worsen the health and life expectancy of residents in the communities that host the region's infrastructure. (3)

Response: The Department has been focusing on reducing air pollutant emissions from existing sources that affect Newark and other urban communities, including the following:

- a) An agreement was reached with Covanta to improve the particulate air pollution control system on the company's incinerators in Newark and construction of a new baghouse system has begun. While the current system meets the permitted rates, the new baghouse system will be the best available control technology for particulates and will achieve much lower particulate emission levels than the current particulate controls at the facility.
- b) The Department's statewide efforts to control power plant emissions have resulted in the installation of modern pollution control equipment at PSEG Hudson power plant coal-

burning unit in Jersey City. Since 2005, actual emissions from this unit have been reduced as follows: particles emissions are approximately 98 percent lower, sulfur dioxide is approximately 95 percent lower, and nitrogen oxides are approximately 90 percent lower.

- c) A two phase nitrogen oxides emission reduction rule (NO_x RACT HEDD Rule N.J.A.C. 7:27-19.4, 5, 29 & 30) has been reducing nitrogen oxides emissions from existing peaking power plants since 2009. Based on currently available information provided to the Department by owners and operators of peaking power plants, about 3,700 MW of peaking power generators were shut down as a result of this regulation. Some of these generators are located in Essex County, including twenty-four simple cycle combustion turbines (approximately 600 MW of generation) at Essex Generating Station in Newark. This shutdown power is being replaced by new low-emitting gas fired power plants like NEC, which has about 1% of the nitrogen oxides emissions as the highest emitting turbines used for peaking. Because nitrogen oxides are pre-cursors of ozone, reductions in nitrogen oxides emissions will result in reductions in ozone formation.
- d) The Port Authority of New York and New Jersey is implementing a plan to reduce air pollution, including particulate and ozone precursor emissions from diesel engines associated with the movement of goods at Ports Newark and Elizabeth (<http://www.panynj.gov/about/port-initiatives.html>). This is in addition to the Department's efforts to reduce diesel particulate emissions statewide, with special emphasis on urban areas. Under the Mandatory Diesel Retrofit Law (N.J.S.A. 26:2C-8), school buses, garbage trucks and transit buses have been retrofitted with devices to control harmful diesel exhaust. The last phase of this program is underway for retrofitting other public diesel vehicles, both on road and off road, with particulate filters. The Department has concluded a pilot program under the Governor's Executive Order 60 to retrofit privately-owned off road construction equipment used in the performance of public contracts, again with an emphasis on projects in urban and densely-populated areas.

New Jersey's air quality is now cleaner than the current annual and 24-hr health standards for fine particulates (12 $\mu\text{g}/\text{m}^3$ and 35 $\mu\text{g}/\text{m}^3$, respectively). On August 13, 2013, the United States Environmental Protection Agency (USEPA) re-designated to attainment the 13 New Jersey counties that had been designated nonattainment for PM_{2.5} (1997 annual standard (15 $\mu\text{g}/\text{m}^3$) and 2006 24-hour standard (35 $\mu\text{g}/\text{m}^3$)) (September 4, 2013 Federal Register). On December 18, 2014, USEPA designated New Jersey in attainment with the revised annual PM_{2.5} standard (12 $\mu\text{g}/\text{m}^3$). As a result, the entire State of New Jersey is in attainment with all current annual and 24-hr health standards for fine particles.

This monitored air quality improvement reflects the success of State and Federal efforts to

control existing sources of air pollution, which is resulting in the replacement of many higher emitting sources with much lower emitting sources, creating an overall net air quality improvement in Newark and throughout New Jersey. The allowable emissions from new sources and many existing sources has decreased as a result of these efforts. The Department intends to continue its efforts to reduce air pollution from existing sources and realize continued air quality improvements in New Jersey, and especially in our urban areas.

Please see response to comments A1 and A2 regarding increased emissions from the proposed permit modifications. Please see response to comment A6 regarding emission offsets that were obtained by NEC and must be obtained by new major sources that are installed in New Jersey to offset the proposed NOx and VOC emissions that the source is permitted to emit.

Please see response to comment E3 regarding the Department's permit review process. Please see response to comment F2 regarding the development of high efficiency, lower polluting forms of electric generation.

- 12) **Comment:** One commenter stated that given that the original air permit allows NEC to emit 97.65 tpy of PM emissions, which just narrowly falls under the 100 tpy threshold, NEC must be held strictly accountable for the impact of the requested changes, including any impacting effects due to changes in dispersion and/or increased chemical usage. (7)

Response: NEC's operating permit contains hourly, as well as annual, particulate emission limits (TSP, PM-10 and PM2.5) for the auxiliary boiler, cooling tower and turbines (with and without duct burners firing). The auxiliary boiler is required to be stack tested initially for each of these pollutants. Monthly calculations are required to demonstrate compliance with each pollutant from the cooling tower. Stack testing is required once per permit term for TSP and once each quarter for PM-10 and PM-2.5 emissions from each turbine (with and without the duct burner firing); hourly calculations are also required to demonstrate compliance with PM-10 and PM-2.5 limits. Compliance with the annual facility wide emission cap for each of these pollutants must also be demonstrated through monthly calculations.

Please see response to comment A1 regarding the lowering of emission stacks. Please see response to comment A2 regarding the effects of additional chemicals to be used in treating the cooling tower water.

- 13) **Comment:** One commenter stated that making it larger means you are going to put more pollutants into the immediate area. It just depends on which way the wind blows on who gets the worst of it. (24)

Response: NEC has not requested an increase in the size or capacity of the plant. Therefore, the Department is not approving a permit that would allow the plant to be made larger

B) Air Quality Modeling Comments

- 1) **Comment:** One commenter stated that considering how close the original modeling for Particulate Matter was to the significant impact level (SIL), even a slight increase in ambient air concentration for this or other harmful pollutants is cause for concern. (3) Commenters stated that the PM2.5 modeling analysis that NEC performed shows that the average impact is 1.18 ug/m^3 while the SIL is 1.2 ug/m^3 and for annual PM2.5 levels, the modeled maximum impact will be 0.283 ug/m^3 while the SIL is 0.3 ug/m^3 (6,16). One commenter stated that, in order to have the same number of significant figures as the SILs, the modeled impacts should be rounded up, when this is done the modeled impacts are equal to the SILs. The commenter stated that this situation should trigger consequences, particularly since the facility is located in an EJ community. (16)

Response: Below is table B1 "Requested Revisions and Impact on Particulate Matter Dispersion" which outlines the revisions which were requested, by permit activity (modification) BOP140001, for each piece of equipment as well as the impact of each revision on the particulate matter dispersion. NEC did not propose to modify the particulate emission rates that are listed in the current operating permit. The application requests no changes in the permitted pollutant emission rates, monitoring, recordkeeping or reporting requirements.

Table B1. Requested Revisions and Impact on Particulate Matter Dispersion

Equipment	Requested Revisions	Effect on Pollutant Dispersion
Combustion Turbines 1 & 2	Decrease each stack diameter from 22 feet (ft) to 18.5 ft	Decreasing stack diameter helps to improve pollutant dispersion, and tends to result in lower ambient pollutant concentrations.
Cooling Tower	Increase each of the 12 cell height from 65 ft to 71.66 ft	Improves dispersion and tends to reduce pollutant concentrations.
	Increase diameter of each cell from 31.6 ft to 35.63 ft.	Tends to adversely affect dispersion and causes elevated pollutant concentrations.
	Decrease exit velocity from 27.89 ft/s to 22.14 ft/s.	Tends to adversely affect dispersion and causes elevated pollutant concentrations.
Emergency Generator	Increase exit temperature from 775.9 °F to 948.7 °F.	Improves dispersion and tends to reduce pollutant concentrations.
	Increase exit velocity from 22.05 ft/s to 55.39 ft/s.	Improves dispersion and tends to reduce pollutant concentrations.
	Slightly different location as preliminary design.	Modeling of the impact at the final location was performed. Results showed negligible impact.
Fire Pump	Decrease stack diameter from 12 in to 6 in.	Improves dispersion and tends to reduce pollutant concentrations.

	Increase exit temperature from 750 °F to 826 °F.	Improves dispersion and tends to reduce pollutant concentrations.
	Increase exit velocity from 7.35 ft/s to 187.93 ft/s.	Improves dispersion and tends to reduce pollutant concentrations.
Cooling Tower	Increase the allowable annual usage limit of chemical additives used to treat the cooling tower water.	None since annual allowable pollutant emission rates will not be increased.

Computer modeling of the above listed changes was conducted to assess the overall impact. For the permitted design, the maximum PM_{2.5} impact was predicted at 1.15 micrograms per cubic meter (ug/m³) for 24-hour average and 0.28 ug/m³ for the annual average. For the requested permit modifications for the final design, the maximum PM_{2.5} impact was predicted at 1.18 ug/m³ for 24-hour average (the corresponding Significant Impact Level is 1.2 ug/m³) and 0.283 ug/m³ for the annual average (the corresponding Significant Impact Level is 0.3 ug/m³).

The Department's policy, regarding significant figures, is to use three significant figures. The SIL for the 24-hour average can be written as 1.20 ug/m³, and the SIL for the annual average can be written as 0.300 ug/m³. The projected PM_{2.5} overall maximum impact of 1.18 ug/m³ for 24-hour average is less than the 1.20 ug/m³ standard but has the same number of significant figures. The projected overall maximum annual average impact of 0.283 ug/m³ is less than the 0.003 ug/m³ standard but has the same number of significant figures. In both cases, no rounding is necessary since each value shares the same number of significant figures. This approach on significant figures is consistent with the June 6, 1990 USEPA guidance document "Performance Test Calculation Guidelines," which can be accessed at <http://www.epa.gov/ttn/emc/rounding.pdf>. This USEPA guidance document allows up to three significant figures for emission standards and other air pollution control related limitations.

There are other PM_{2.5} emission sources in the vicinity of the NEC facility, such as emissions from industrial operations, cars, trucks, and human activities. The PM_{2.5} concentrations in the air as a result of all these emission sources are called background concentration, and must be added to the predicted NEC impact to assess the total PM_{2.5} impact.

The Department operates a comprehensive air pollutant monitoring network throughout New Jersey, including a particulate monitoring site at Newark Firehouse on 360 Clinton Avenue. Based on the last three years (2012-2014) of PM_{2.5} monitoring data at this site, PM_{2.5} background concentration in Newark area is 24.7 ug/m³ for 24 hour average and 9.0 ug/m³ for annual average.

For the proposed permit modifications, when adding the predicted maximum NEC concentration to the background concentration, the total PM_{2.5} impact is 25.88 ug/m³ for 24 hour average, less than its National Ambient Air Quality Standard (NAAQS) of 35 ug/m³, and 9.28 ug/m³ for the

annual average, less than its NAAQS 12 ug/m^3 . Therefore, as summarized in table B2 “PM2.5 24 hour Average Impact From Preliminary Design and Final Design” and table B3 “PM2.5 Annual Average Impact From Preliminary Design and Final Design” the difference in air quality impact is insignificant, and the NEC facility operation will not cause a violation of the PM2.5 NAAQS.

Table B2. PM2.5 24 Hour Average Impact From Preliminary Design and Final Design

Facility Design	PM2.5 Maximum 24-hour average (ug/m^3)	PM2.5 Background 24-hour average (ug/m^3)	Total PM2.5 24- hour average (ug/m^3)	NAAQS PM2.5 24-hour average (ug/m^3)
Preliminary	1.15	24.7	25.85	35
Final	1.18	24.7	25.88	35

Table B3. PM2.5 24 Hour Average Impact From Preliminary Design and Final Design

Facility Design	PM2.5 Maximum Annual Average (ug/m^3)	PM2.5 Background Annual Average (ug/m^3)	Total PM2.5 Annual Average (ug/m^3)	NAAQS PM2.5 Annual Average (ug/m^3)
Preliminary	0.28	9.0	9.28	12
Final	0.283	9.0	9.283	12

- 2) **Comment:** Several commenters stated that modeling performed does not reflect the cumulative impacts on the Newark community from nearby sources and highways, newly approved emergency generators from nearby sources, as well as emissions from all NEC sources (emergency generator, fire pump and increased truck traffic due to increased use of chemicals). (4,5, 7,23,28) One commenter stated that NEC should have to perform a cumulative impact analysis that aggregates all sources of PM2.5, NO2 and PM10 in the area and that discusses possible health impacts caused by these pollutants in isolation and in combination with other local air pollutants. (16) One commenter stated that cumulative impacts must be considered in the modeling (7) One commenter stated that the permit applications fail to properly consider the significant air quality impacts from particulate matter emissions to the environmental justice community and the substantial increase in hazardous chemicals to be transported through and stored in the Ironbound community. This commenter stated that analysis of the cumulative and environmental justice impacts are necessary. (6) One commenter stated that in this overburdened

community, designated by the USEPA as an Environmental Justice Community of Concern, the State has already permitted NEC to emit several pollutants and this pollution adds to the cumulative impact of air pollution from major nearby emitters including PVSC, the Covanta waste processing plant, the airport, seaport, and multiple highways, and a range of industrial uses. The commenter stated that no information has been made available to the City or the public about how the proposed redesign will impact this cumulative pollution burden. The commenter further stated that because of the high pre-existing levels of pollution, any net increase in ambient air pollution associated with a redesign of the project, even if it does not meet New Jersey's threshold for "significance", is a matter of significant concern for local government and for the public that has to breathe this air every day. (3)

Response: The changes being made by these modifications will not result in the increase of any emissions from NEC. Please see response to comment A1 regarding the lowering of stacks. Please see response to comment A2 regarding the effect of the requested increase in cooling tower chemicals.

An air quality analysis, which takes into account all air pollution sources in the area, by incorporating background concentrations, which are based on actual monitoring data in the area, was performed for each modeled and monitored air pollutant. This accounts for other PM2.5 emission sources in the vicinity of the NEC facility, such as emissions from industrial operations, cars, trucks and human activities. The PM2.5 concentrations in the air as a result of all of these emission sources are added to the predicted NEC impact to assess the cumulative PM2.5 levels.

Emissions of SO₂, CO, NO_x, PM10 and PM2.5 from the NEC project were also modeled and representative existing background concentrations for each of these pollutants were added to assess the cumulative level for each pollutant. The total ambient level for each of these pollutants was significantly less than its respective NAAQS. Please see response to comment B1 regarding the details of the modelling that was performed. Please see response to comment B9 regarding the inclusion of emergency sources in modeling.

Risk assessment for air toxics was also conducted for the proposed project. The health risks due to toxic air pollutants emitted from NEC in the residential areas, including the Ironbound community, were predicted to be negligible.

Please see response to comment D9 regarding the regulation of transportation and handling of cooling tower water treatment chemicals. Please see response to comment E3 regarding the analysis that the Department performed to evaluate the environmental justice impacts of these modifications.

3) **Comment:** One commenter stated that given the requested changes in the location and size of stacks,

new modeling must be done to consider any dispersion impacts on public health as a result of the changes, including additional impacts on concentrations of air contaminants. (7)

Response: Please see response to comment A1 regarding changes to the size of the stacks.

New modeling of the stack changes requested by permit application (modification) BOP140001 was conducted. Please see response to comments B1 and B2 regarding the modeling that was performed. The total impact for each pollutant modelled was well below the NAAQS.

- 4) **Comment:** One commenter stated that emission modeling is necessary to ensure that the changes will not impact the environmental justice community in the immediate neighborhood of the facility. (6) Another commenter stated that the requested changes to the stacks should be considered with the information provided by new dispersion and cumulative impact models; in the absence of this information, the Department should consider the modification significant or otherwise provide documentation supporting its decision. (7)

Response: Please see response to comments A1 and A2 regarding the impact of the proposed changes on emissions from the facility.

The changes proposed by these modifications were modeled in accordance with all applicable rules and regulations. This modelling shows no significant impact will occur as a result of these changes. Please see response to comments B1 and B2 regarding the modeling that was performed.

Please see response to comment J1 regarding the classification of permit activity (modification) BOP140001 as a minor modification rather than a significant modification as the commenter suggests.

- 5) **Comment:** One commenter stated that the changes to the stacks could result in a different geographical distribution of the impacts of air pollutants emitted by the plant but no information detailing which Newark neighborhoods might be affected by these changed impacts has been made publicly available. This commenter stated that this information is important since there could be detrimental health impacts that accompany the increased concentrations. (16) One commenter expressed concern that the proposed changes to the emission stacks will result in several stacks being lower to the ground and closer to the property line than originally proposed. The commenter stated that no additional offsets, permit adjustments, or reporting levels are required because the permit states that modeling done on this re-design shows that the net impact on air pollution does not violate the threshold of "significant impact". However, the commenter stated that the net impact may include increases in ambient concentration of air pollution near the site. The commenter stated that there is no clear information in

the draft permit about the results of any new modeling or the likely net impact on air pollution. The commenter stated that this information should be shared with the city and the public before any modifications are debated or approved. (3)

Response: Please see response to comment A1 regarding the changes to the stacks. Please see response to comments B1 and B2 regarding the modeling that was performed to evaluate stack changes.

- 6) **Comment:** One commenter stated that if an agency wishes to use SILs, it must first examine the background air quality concentrations to determine whether a substantial portion of the NAAQS has been consumed; comparison of background air quality concentrations and the NAAQS would not by itself provide adequate justification for foregoing a modelling analysis for the PM increments. (6)

Response: There are four PM_{2.5} monitoring sites within 7 miles of the NEC facility. The Department examined multiple years of the background PM_{2.5} concentration measurements at these sites. During the last 3-year period of 2012-2014, the highest measured 24-hour average PM_{2.5} background concentration is 26.0 ug/m³ (Mitchell Building in Elizabeth), well below the NAAQS of 35 ug/m³. The highest measured annual average PM_{2.5} background concentration is 10.7 ug/m³ (Turnpike Exit 13 in Elizabeth), well below the NAAQS of 12 ug/m³.

As indicated in Response to Comment B1, the particulate monitoring site at Newark Firehouse on 360 Clinton Avenue was used in determining the combined impact from the background concentrations and those concentrations resulting from the PM_{2.5} emissions emitted from the NEC facility. The Newark Firehouse monitor readings were chosen since they are the most representative of the air quality in the Newark area. Based on the last three years (2012-2014) of PM_{2.5} monitoring data at this site, PM_{2.5} background concentrations in Newark area are 24.7 ug/m³ for 24 hour average and 9.0 ug/m³ for annual average.

The maximum predicted NEC 24-hour average PM_{2.5} impact is 1.18 ug/m³, less than the allowable ambient air increment of 9 ug/m³. The maximum predicted NEC annual average PM_{2.5} impact is 0.283 ug/m³, less than the allowable ambient air increment of 4 ug/m³. For the annual level, the annual NAAQS is more limiting than the PSD increment. Ambient air increment limits are established in 40 CFR 52.21 "Prevention of Significant Deterioration of Air Quality" and represent the maximum allowable increase all new facilities can cause over the baseline concentration. For any period other than the annual period, the applicable maximum allowable increment increase may be exceeded during one such period per year at any one location.

- 7) **Comment:** One commenter stated that on May 20, 2014, the USEPA issued a memorandum entitled "Guidance for PM_{2.5} Permit Modeling", which was issued partially in response to a January 22, 2013

decision from the U.S. Court of Appeals regarding the use of SILs under the Clean Air Act's PSD program (Sierra Club –vs- USEPA – 705 F.3d 458 (403 D.C. Cir. 2013)), which holds that SIL numbers are vacated because regulations impermissibly removed agency discretion. The commenter stated that due to the difficulty inherent in modelling PM2.5, the USEPA position in this guidance, is that appropriate modeling techniques and analysis should be decided on a case by case basis and the methods used to assess the PM2.5 impact of an individual source depend on the nature of the source and its emissions. The commenter stated that if permitting authorities wish to continue to use the SILs for PM2.5, measures must be taken to ensure that the standards are applied in a manner consistent with the US Court of Appeals decision as well as the USEPA guidance; permitting authorities may no longer rely solely on the PM2.5 SIL as listed in the sections vacated by the U.S. Court of Appeals, additional justification must be provided before choosing to exempt NEC from performing a full cumulative impact analysis. (6) Commenters stated that the USEPA has explicitly stated that simply demonstrating that the impact of a proposed modification will not exceed the SIL is not sufficient, by itself, to determine that the source will not contribute to or cause a violation of the NAAQS; notwithstanding the existence of a SIL, permitting authorities should determine when it may be appropriate to conclude that even a de minimis impact will "cause or contribute" to an air quality problem and to seek remedial action from the proposed new source or modification (75 Fed. Reg. 64892). (6,16)

Response: When evaluating NEC's PM2.5 impact, the Department did not rely solely on the PM2.5 SIL. NEC was required to conduct an air contaminant analysis by combining the maximum projected impact from the NEC facility with the representative background pollutant concentration existing in the air to determine the total impact. This method represents the worst case projected impact. NEC's computer modeling demonstration has shown that, for each pollutant modelled, the total cumulative impact is below the applicable NAAQS by significant margins. Please see response to comments B1 and B2 for details of the cumulative impact modeling that was performed.

- 8) **Comment:** One commenter stated that approving this modification is inappropriate because the modeled value is so close to the SIL while not all sources have been included in the modeling. The commenter stated that USEPA guidance states that such action would not ensure that there is sufficient headroom to absorb a pollutant contribution so near to the SIL. The Ironbound Community Corporation (ICC) and New Jersey Environmental Justice Alliance (NJEJA) stated that a cumulative impact modeling environmental justice analysis is necessary to properly ensure that NEC will not contribute to a violation of the PM2.5 NAAQS. (6)

Response: NEC's compliance demonstration for the PM2.5 NAAQS did not rely entirely on compliance with the PM2.5 SIL. Please see response to comment B7 for a detailed explanation of the compliance demonstration. Please see response to comment B9 regarding the inclusion of emergency sources in modeling.

- 9) **Comment:** Several commenters stated that intermittent sources (emergency generator and firepump) have not been included in the modeling. These commenters stated that it would be appropriate to include emissions from the emergency generators in worst-case scenario modeling of ambient concentrations. (3,6,16) One commenter stated that even though these sources are not in continuous use, they should be included in the particulate modeling because the modeled impacts are so close to or at the SILs and the facility is located in an EJ community. (16)

Response: Emissions from the emergency generator and the fire pump were included in all required modeling, except the 1-hour NO₂ NAAQS modeling. The emergency generator and the fire pump are each limited to 30 minutes per testing event and a total of 100 hours per year of operation for testing. Simultaneous testing of the two pieces of equipment is not permitted. Testing during the startup of the turbine or boiler is not permitted. Testing during Ozone Action Days is not permitted. Only ultra-low sulfur distillate fuel oil can be used. These restrictions are included in NEC's operating permit and are fully enforceable.

The USEPA's guidance on when to conduct a 1-hour NO₂ modeling on sources which operate intermittently is outlined in the March 1, 2011 Memorandum "Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO₂ National Ambient Air Quality Standard," which can be accessed at

http://www.epa.gov/ttn/scram/guidance/clarification/Additional_Clarifications_Appendix_W_Hourly-NO2-NAAQS_FINAL_03-01-2011.pdf The USEPA made the following conclusion:

Given the implications of the probabilistic form of the 1-hour NO₂ NAAQS discussed above, we are concerned that assuming continuous operations for intermittent emissions would effectively impose an additional level of stringency beyond that intended by the level of the standard itself. As a result, we feel that it would be inappropriate to implement the 1-hour NO₂ standard in such a manner and recommend that compliance demonstrations for the 1-hour NO₂ NAAQS be based on emission scenarios that can logically be assumed to be relatively continuous or which occur frequently enough to contribute significantly to the annual distribution of daily maximum 1-hour concentrations. EPA believes that existing modeling guidelines provide sufficient discretion for reviewing authorities to exclude certain types of intermittent emissions from compliance demonstrations for the 1-hour NO₂ standard under these circumstances.

The USEPA also concluded that 1) the intermittent nature of the actual emissions associated with emergency generators, when coupled with the probabilistic form of the 1-hour NO₂ standard, could result in modeled impacts being significantly higher than actual impacts would realistically be expected to be for these emission scenarios. 2) The potential overestimation in these cases results from the implicit assumption that worst-case emissions will coincide with worst-case meteorological conditions based on the specific hours on specific days of each of the years associated with the modeled design value based on the form of the hourly standard.

Since the emergency generator and fire pump are only operated under emergency situations and for testing and maintenance, they were not included in the 1-hour NO₂ NAAQS modeling analysis, consistent with EPA guidance.

- 10) **Comment:** One commenter stated that it appears that secondary formation of PM_{2.5} connected to the stack modifications was not included in the modeling. The commenter stated that secondary emissions should be included in the particulate modeling because the modeled impacts are so close to or at the SILs and the facility is located in an EJ community. (16)

Response: When assessing NEC compliance status with the PM_{2.5} NAAQS, monitored background levels of PM_{2.5} were added to the ambient air impacts resulting from the NEC PM_{2.5} emissions. This background concentration accounts for secondary PM_{2.5} impacts from regional transport, secondary PM_{2.5} impacts from precursor emissions from nearby sources, and primary PM_{2.5} impacts from background sources not specifically modeled.

Direct PM_{2.5} emissions from NEC were also included in the modeling. NO_x and SO₂ are precursors of secondary PM_{2.5} formation. NEC's potential SO₂ emissions are limited to 19.73 tons/yr, which is less than the USEPA defined significant emission rate of 40 tons/yr for SO₂. Therefore, assessment of secondary PM_{2.5} formation from NEC SO₂ emissions is not required. NEC's potential NO_x emissions are limited to 139.1 tons/yr, which is greater than the USEPA defined significant emission rate of 40 tons/yr for NO_x. Therefore, assessment of secondary PM_{2.5} formation from NEC NO_x emissions was done.

Pursuant to USEPA guidance, the secondary formation assessment can be a) qualitative in nature; b) based on a hybrid of qualitative and quantitative assessments utilizing existing technical work; or c) a full quantitative photochemical grid modeling exercise. The USEPA anticipates only a few situations would require explicit photochemical grid modeling.

A qualitative approach was taken to assess the secondary PM_{2.5} formation. The atmospheric chemistry and meteorological phenomena that influence the formation of secondary PM_{2.5} can act on scales that range from hundreds to thousands of kilometers. The impact of NO_x emissions can reach to distances of around 400 km. Therefore, secondary formation of PM_{2.5} is generally a regionally driven issue, with lesser impacts on the vicinity of the sources. For NEC, the maximum PM_{2.5} impact from the primary PM_{2.5} emissions occur very close to the facility. Therefore, the impact from the secondary formation of PM_{2.5} will not be significant, and will not affect NEC's compliance with the PM_{2.5} NAAQS.

- 11) **Comment:** One commenter stated that USEPA has concluded that there is no concentration threshold floor for health benefits derived by decreasing PM_{2.5} levels; in other words, there are health benefits

linked to decreasing PM2.5 concentrations as low as possible and consequences for increasing levels of PM2.5. The commenter stated that increased ambient concentrations caused by permit activity (modification) BOP140001 will move air pollution concentrations in Newark in the wrong direction and could cause increased illness and perhaps pre-mature death. (16)

Response: The Clean Air Act requires EPA to set National Ambient Air Quality Standards (40 CFR part 50) for pollutants considered harmful to public health and the environment. The USEPA has established the 12 ug/m³ annual average PM-2.5 ambient level and 35 ug/m³ 24-hour average level as "Primary Standards." "Primary Standards" provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly.

12) **Comment:** One commenter stated that a study shows a link between autism and air pollution. The commenter stated that the study says that maternal exposure to air pollution during pregnancy, especially during the third trimester, on developing Autism Spectrum Disorder (ASD) in a child suggests that air pollution is a modifiable risk, meaning that you can change it; reduced exposure during pregnancy would lower the risk of ASD and substantially reduce the increase in economic burden on families and on society. The commenter stated that as a teacher in the Newark school system he has seen an increase in autism in Newark schools. The commenter states that NEC's permit does not account for effects on autism. (24)

Response: This comment is referring to the following study: R. Raz, et al., 2015, "Autism spectrum disorder and particulate matter air pollution before, during, and after pregnancy: a nested case-control analysis within the Nurses' Health Study II cohort," *Environ-Health Perspect* 123:264-270; <http://dx.doi.org/10.1289/ehp.1408133>. The study concludes that higher maternal exposure to PM2.5 during pregnancy, particularly the third trimester, was associated with greater odds of a child having ASD. The children in the study were born between 1990 and 2002. The authors state that "given the expected given time trends in air pollution, control children born in earlier years were more likely to be in higher PM2.5 quartiles." Their findings support the possibility of an effect of maternal exposure to air pollution during pregnancy, and especially during the third trimester, on the development of ASD in her child. They go on to say that they "...cannot, however, rule out another pollutant that co-varies with PM2.5. Nor can we determine whether there is a particular component of PM2.5 that is responsible for the associations we found. PM2.5, however, is a complex mixture that may be correlated with other air pollution constituents. In the present study we did not have high temporal and spatial resolution data on other air pollution constituents or on specific PM2.5 components to determine whether a specific component is associated with autism."

The proposed permit applications comply with all applicable State and Federal Air Quality

Regulations, including the National Ambient Air Quality Standard for protection of health from fine particles PM_{2.5}. Please see response to comment E3 regarding the Department's permit application review process and modelling that was performed during this process. The Department relies on the federal NAAQS for PM_{2.5} for the protection of health from fine particle emissions. The federal NAAQS was recently made more stringent with a 12 ug/m³ annual average standard which NEC will not exceed.

C) Air Quality Monitoring Comments

- 1) **Comment:** One commenter stated that there is insufficient air monitoring in New Jersey, and in Essex County in particular and that if NEC is going to pollute the Ironbound neighborhood, at least give the neighborhood the opportunity to see what damage is being done. (4)

Response: The Department operates a network of 38 air monitoring stations throughout New Jersey which measure levels of air pollutants that have health standards as required by federal regulations. These air pollutants are carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM_{2.5} and PM₁₀), and sulfur dioxide (SO₂). In addition to monitoring the pollutants that have standards, the Department also measures atmospheric deposition, visibility, volatile organic compounds and weather parameters.

The Department operates five air monitoring stations within five miles of NEC: Newark Firehouse, Jersey City, Jersey City Firehouse, East Orange, and Bayonne. The Newark Firehouse station, located at 360 Clinton Avenue, is a comprehensive monitoring station that measures CO, NO₂, O₃, SO₂, PM_{2.5}, Pb, PM₁₀, volatile organic compounds, and weather parameters. The Jersey City station measures CO and SO₂, the Jersey City Firehouse station measures PM_{2.5} and PM₁₀, the East Orange station measures CO, NO₂ and weather parameters, and the Bayonne station measures NO₂, O₃, SO₂, volatile organic compounds and weather parameters.

Hourly updates of the air pollutant levels from most of the stations are available to the general public through the Bureau of Air Monitoring's web site (www.njaqinow.net) and the USEPA's AirNow web site (www.airnow.gov). The web site www.njaqinow.net also provides annual summaries for the air quality data collected by the Bureau of Air Monitoring.

- 2) **Comment:** Commenters stated that it is inappropriate to use background air quality concentration data collected from the Newark Firehouse monitoring site to determine ambient concentration levels for modelling because this monitor is about 4 miles from the NEC project site, the array of highways, stationary sources, and emission sources associated with the air and seaports and because the data from this monitor does not adequately represent the local geography and the community most likely to be affected by the emissions from NEC. These commenters stated that the background air quality data must sufficiently represent the area of concern in order to be appropriate for making a determination

whether cumulative impact analysis is required. (3,6) One commenter stated that a more appropriate source for background concentrations of pollution may be the monitoring station located in Elizabeth, NJ, closer to the proposed project site. (3)

Response: The Department operates a comprehensive PM_{2.5} monitoring network in northern New Jersey, including the following sites: Newark Firehouse (360 Clinton Avenue), Jersey City Firehouse (355 Newark Avenue), Elizabeth Turnpike Exit 13, and Elizabeth Mitchell Building (500 North Broad St.). The following table lists the distance and direction of each site in relation to the NEC facility, the monitored PM_{2.5} background concentrations, and the total impact of the combined concentrations. Results show that the maximum predicted impacts are all well below PM_{2.5} NAAQS. Results also show that the PM_{2.5} background concentrations from these four sites, in different directions from the NEC facility, are all on similar scales. The Department considers the measurements at the Newark Firehouse site representative of existing particulate matter concentrations in the area around the NEC facility because of its proximity to the site and the significant vehicle traffic in the vicinity of the monitor.

Site	Distance/ Direction	Maximum 24-hour PM _{2.5} Impact				Maximum Annual PM _{2.5} Impact			
		NEC (ug/m ³)	Background (ug/m ³)	Total (ug/m ³)	NAAQS (ug/m ³)	NEC (ug/m ³)	Background (ug/m ³)	Total (ug/m ³)	NAAQS (ug/m ³)
Newark Firehouse	3.6 miles/ West	1.18	24.7	25.9	35	0.283	9.0	9.3	12
Jersey City Firehouse	3.7 miles/ East- northeast	1.18	23.3	24.5	35	0.283	9.8	10.1	12
Elizabeth/ Turnpike Exit 13	3.3 miles/ Southwest	1.18	24.3	25.5	35	0.283	10.7	11.0	12
Elizabeth/ Mitchell Building	5.4 miles/ Southwest	1.18	26.0	27.2	35	0.283	9.3	9.6	12

- 3) **Comment:** One commenter stated that NEC should be required to perform PM_{2.5} ambient monitoring; a baseline should be established before the facility becomes operational and monitoring should be performed during its operation to ensure that SILs are not exceeded. The commenter also stated that the community should be consulted on the design and implementation of the monitoring. (16)

Response: As described in response to comment C2, there are four PM_{2.5} ambient air quality monitors located between 3.3 and 5.4 miles from the NEC facility. These provide the representative PM_{2.5} ambient air concentrations in the vicinity of NEC. Consequently, there is no need for NEC to conduct PM_{2.5} ambient monitoring.

- 4) **Comment:** One commenter stated that the Rutgers Newark air monitor is elevated at a point where it is not effective for ground level pollution. (4)

Response: The Rutgers Newark air monitor is located in a trailer at ground level. It is installed and operates in accordance with its design and purpose, to monitor air pollution.

- 5) **Comment:** One commenter stated that before coming to the public hearing, this afternoon, he checked the air pollution levels at the Newark fire station, which the Department uses for background concentration of particulate matter and the air quality index provided online, indicated that there were health concerns in Newark this afternoon for particulate matter 2.5 and that folks who are sensitive to particulate matter will be impacted. (6)

Response: On the day of the public hearing, February 3, 2015, the 24-hr PM_{2.5} concentration for Newark Firehouse was 8.7 ug/m³ (good air quality). In fact all of New Jersey measured good air quality for that 24 hour period. The Air Quality Index (AQI) that is provided online for Particulate Matter 2.5 (PM_{2.5}) is a 24-hour index, based on USEPA's air quality standards and the science about particulate exposure and health. To give the public the most up to date information on PM_{2.5} pollution in their area, the AQI is generated using real time hourly monitoring data, and from that hourly data projections are made as to the 24-hour AQI value. The AQI for the "unhealthy for sensitive groups" (USG) category is 101-150 and is color coded orange. In this AQI range, the general public is not likely to be affected by pollutant levels. However, the sensitive population, which includes the elderly, people with heart or lung disease, and children, are at a greater risk from the presence of particles in the air. On days where a USG AQI is projected, the sensitive population is advised to reduce prolonged or heavy exertion outdoors.

D) Discharge Prevention, Containment and Countermeasure (DPCC) Comments

- 1) **Comment:** One commenter questioned what is being done to keep people safe should there be an explosion or a spill. (38)

Response: There are many State and Federal laws and regulations designed to protect people and the environment from incidents at facilities storing, handling, or processing hazardous chemicals. These include the State's Spill Compensation and Control Act (Spill Act, N.J.S.A. 58:10-23.11 *et seq.*) and the Federal Emergency Planning and Community Right to Know Act (EPCRA).

The Spill Act, through the implementing regulations Discharges of Petroleum and other Hazardous Substances (DPHS, N.J.A.C. 7:1E), requires that major facilities storing hazardous chemicals provide secondary containment for storage tanks. This secondary containment must be able to hold the entire contents of the tank plus any precipitation that could accumulate in the

containment. It must be impermeable to the chemical being stored and any chemical leaked into the containment must be promptly cleaned up. Major facilities are further required to plan for incidents where a chemical escapes secondary containment and must have response plans and materials and equipment available for cleanup. Response plans must be coordinated with the local emergency planning committee (LEPC) set up in accordance with the requirements of EPCRA. In New Jersey, each municipality is required to have an LEPC. The DPHS rules also require that discharges to the environment be reported to the Department's environmental hotline. Once reported, the Department can determine if its response personnel need to be dispatched to assist facility personnel.

Under EPCRA, facilities must report the average and maximum quantities of chemicals stored on site in the past year. They are also required to provide that information to local emergency response agencies and to coordinate response planning through the LEPC. Certain releases of chemicals are required to be reported to the LEPC.

These are only two of the State and Federal laws that protect people and the environment that are applicable at NEC.

- 2) **Comment:** One commenter questions whether there is an evacuation plan for those who live and work nearby at the Delaney Hall Immigration Detention Center and at the Essex County Correctional Facility (38)

Response: Evacuation planning is the province of the LEPC. EPCRA establishes the LEPC as responsible for an overall emergency response plan for its planning area. In New Jersey, this planning area is the municipality. The LEPC must, among other duties: designate a community coordinator and facility emergency coordinator(s) to implement the emergency response plan; outline emergency notification procedures; describe how it determines the probable affected area and population for possible releases in the planning zone; describe local emergency equipment and facilities and the persons responsible for them; and outline evacuation plans. The LEPC coordinator for Newark is Director Keith Isaac, 480 Clinton Ave, 3rd floor, Newark, NJ 07102.

- 3) **Comment:** One commenter stated that increased amounts of toxic materials like sulfuric acid and ammonia give rise to a real threat of releases and explosions of the type this community has seen before. The commenter stated that, considering the proximity of residences and schools, this puts thousand in eminent danger and that this is compounded by the fact that there is no emergency plan in existence with the city emergency workers or the community. The commenter expressed concern that, in the event of an accident, there would be chaos; not only would there be the immediate threat, but no one would know what to do to counter or protect against it. (37)

Response: As outlined in the response to comments D1 and D2, under EPCRA, the LEPC for Newark is responsible for establishing an emergency plan covering community response and possible evacuations in the case of releases and explosions. The LEPC coordinator for Newark is Director Keith Isaac, 480 Clinton Ave, 3rd floor, Newark, NJ 07102. In New Jersey, the State Emergency Response Commission (SERC), which oversees the LEPCs, is headed by the State Police. The SERC contact for New Jersey is Col. Rick Fuentes, Director, State Office of Emergency Management, Box 7068, River Road, West Trenton, NJ 08625. Concerns about community emergency response should be addressed to him.

- 4) **Comment:** One commenter stated that the Department should adopt the same legal status of protection to all citizens as the Division of Youth and Family Services (DYFS) has in protecting the welfare of all children. The commenter questions whether DYFS officials would approve of the Department allowing an increase in toxic chemicals or a change to the stack heights and diameters. The commenter further stated that NEC has no public emergency plan and the children will suffer and the unborn will be effected and seniors deserve a better environment. (39)

Response: In accordance with the DPHS rules, NEC has an approved Discharge Cleanup and Removal (DCR) plan that outlines the possible releases from the facility and the planned responses to such releases. The DCR plan includes information on the emergency response equipment and materials available to NEC and the personnel qualified to use it. The DCR plan is considered security sensitive information and thus is not a public document. However, as part of the planning process, NEC was required to contact the LEPC in order to establish coordination between the facility and the resources of the LEPC in the event of an incident. Under EPCRA, it is the LEPC's responsibility to provide that coordination and a public response plan incorporating possible incidents involving NEC as well as any other facilities subject to EPCRA in the planning area.

- 5) **Comment:** One commenter stated that the community is disturbed that NEC is anticipating the delivery of 306,267 pounds of sulfuric acid and other chemicals in November 2014. The commenter stated that no information is provided to explain how such chemicals will be stored and secured onsite. (6)

Response: In the approved Discharge Prevention, Containment and Countermeasure (DPCC) plan submitted by NEC to show compliance with the DPHS regulations, the means of storage, secondary containment for that storage, tank testing for integrity, and other aspects of the storage of these chemicals is described. The described storage is in compliance with all requirements of the DPHS rules and inspections will be performed to ensure that compliance is maintained. In addition, the DPCC plan contains information on security at the site, designed to prevent unauthorized access to the hazardous chemicals. The DPCC plan is considered security sensitive information and thus is not a public document.

6) **Comment:** Several commenters expressed concern that NEC has not released their emergency plans to the public, the community or the Newark Fire Department. (1,3,7,14,17,25,31,35, 39, 40,41) One commenter stated that the community has the right to know the following:

- a. How should residents react in case there is a spill or explosion? What is the process for community notification, especially in a community where many of the residents do not speak English, literacy rates are low and many people rely on temporary cell phones.
- b. What are the specific kinds of chemicals and the amounts that are coming into the community?
- c. How often will the facility actually use the permitted amount?
- d. What are the routes that the trucks will be taking, what is the frequency of deliveries, and who is enforcing that those routes are taken?
- e. Where is the public access to all of this information?

The commenter stated that before any significant permit is approved, the Department should ensure that these questions are addressed to the satisfaction of the community. (7)

Response:

- a. As required by the DPHS rules, NEC attempted to make contact with the local LEPC. As evidenced by letters in the approved DCR plan, contact was attempted with the LEPC and the Essex County Office of Emergency Management. Under the DPHS rules and EPCRA, this is the means that NEC is supposed to use for coordinating emergency notification and response with the community. The LEPC is then responsible for establishing emergency evacuation procedures for the community. Notification from the facility would be made to the LEPC and the Department's hotline and the LEPC is responsible for establishing how the local community is to be notified, as they have the best information on what would be effective means of communication.
- b. Information about the chemicals and amounts stored at any facility can be obtained from the State's Community Right to Know (CRTK) program. This information can be accessed online at http://datamine2.state.nj.us/DEP_OPRA/OpraMain/categories?category=CRTK or by contacting the program at (609) 292-6714.
- c. The permit limits are based on a worst case scenario, assuming low quality water is received and therefore maximum treatment is required all of the time. If better quality water is received during periods of operation, the amount of chemicals used to treat that water will be lower. The storage tanks at the facility have a fixed capacity which limits the amount of chemicals that can be stored onsite at any given time. The approved DPCC and DCR plans for NEC show compliance with all applicable requirements of the DPHS regulations for its storage areas.
- d. There are no known restrictions on the route or frequency of trucks making deliveries to NEC; therefore specific routes taken cannot be enforced. However, information provided in November 2014 by NEC, to the Department and EELC, indicates that NEC anticipates receiving 5-7 truck deliveries per month and that the delivery trucks are expected to utilize the NJ Turnpike and

either exit 15E (Doremus Ave) or exit 14E (Port St.) to Delancy St., which is where NEC is located.

- e. Public access can only be granted to public documents. Some documents, such as the DCR plan and DPCC plan, which contain security sensitive information, are not considered public documents. Please see response to comment D4 regarding NEC's DCR plan and D5 regarding NEC's DPCC plan. Public access to other sources of information on NEC, its facility and operations, is discussed in other responses to comments throughout this document.

- 7) **Comment:** One commenter stated that prior to any permit approval, the Department and NEC should ensure that:
- a. Emergency preparedness plans are made public and translated into Spanish and Portuguese so that the entire community knows how to react in the case of a spill or explosion.
 - b. A local hazard materials unit and LEPC are created. (7)

Response:

- a. Please see response to comment D3 regarding the establishment of an emergency preparedness plan.
- b. The Department has only a support role in the SERC. It is not responsible for overseeing the LEPCs in New Jersey. The State Police, as the lead agency in the SERC, establish the areas requiring an LEPC and oversee their implementation and function. As a member of the SERC, the Department can request that the State Police scrutinize the LEPC for Newark to ensure that it is a viable, operating entity.

- 8) **Comment:** One commenter stated that the increase in volume of sulfuric acid being transported, stored, and used in the permit raises questions about communication with the neighbors and the general public about emergency preparedness. The commenter further stated that certain Standby Plans must be filed according to this permit but there is a need for additional information to be shared with the City and the public about what to expect and how to respond in the event of an emergency; the adjacent community has a right to know about the risks to which they are being exposed, particularly vulnerable populations such as the people housed in the jail and the immigrant detention center. The commenter stated that the City is ready to work with the State and the facility owners to establish clear channels for sharing information with the public about what they need to know and how they will be informed in the event of a leak, explosion, or other unforeseen disruption at the plant. (3)

Response: As outlined in the response to comments D1, D2, D3, and D4, under EPCRA and the DPHS rules, NEC is required to share certain planning and response information with the community through the LEPC. The establishment and running of the LEPC is the responsibility of the municipality, with oversight from the State Police, who are the head of the New Jersey SERC. The people enumerated in EPCRA for involvement in the LEPC are precisely the ones

that would have information about particularly vulnerable populations and their access to things like transportation if there were an evacuation, and the best way to inform various populations about threats to their health or environment. There is evidence in the approved DCR plan that NEC attempted to contact the LEPC. However, the Department cannot force the LEPC to respond or be active in planning and coordinating emergency response actions.

- 9) **Comment:** One commenter expressed concern about the danger posed to the Newark community by the utilization and transportation of significantly increased amounts of sulfuric acid through the area and the safety and health concerns raised by it. The commenter stated that, if approved, this increase should be accompanied by enhanced safety plans that protect the community from accidents during the utilization and transport of this hazardous material. (16)

Response: NEC has addressed the transfer and usage of chemicals on its site through its DPCC and DCR plans. The storage, truck unloading, and processing areas are in compliance with the requirements of the DPHS rules, which are designed to protect human health and the environment. Transportation over the roads is regulated at the Federal level by the U.S. Department of Transportation, which establishes standards for truck operation and safety, including design standards for tanks, driver requirements, and placarding. In combination, these requirements are designed to protect human health and the environment.

- 10) **Comment:** One commenter stated that allowing 4 times more toxic chemicals makes no sense because these chemicals are not safe in a place with a lot of people so close. The commenter stated that chemicals like that should be put in a place away from large cities, especially cities like the Ironbound, where people are already in trouble with air pollution and dangerous chemicals stored so close to our families. (36)

Response: Pursuant to the Spill Act and the implementing DPHS regulations, NEC is subject to stringent requirements regarding the manner and practices associated with that storage. The tanks used must have secondary containment and high level alarms, and must be tested periodically for integrity using an established industry standard for the type and size of storage tank. These requirements, and many others in the DPHS regulations, are designed to protect human health and the environment from possible releases of hazardous chemicals.

- 11) **Comment:** One commenter expressed concern about the air quality as well as the large amount of chemicals that NEC is proposing to store onsite. This commenter expressed a need for protection. (2)

Response: Please see responses to comments D1, D2, D4, D5 and D10.

- 12) **Comment:** One commenter expressed concerned about the potential for explosions due to the storage

and use of so many chemicals in the Ironbound. This commenter stated that if the chemicals explode, they will be in the air and we will be breathing them. This commenter questions what will happen to the hundreds of people in the Essex County Detention Center, which is located near NEC, if the chemicals explode? (2)

Response: The chemicals stored at NEC present a minimal chance of explosion. The only one with any possibility is the high strength sulfuric acid. The possibility of an explosion occurring in this storage tank is extremely low because a foreign substance would need to be introduced into the tank to cause the explosion. There are various safeguards in place to prevent such an occurrence. In addition, all but one of the storage tanks containing hazardous chemicals are located inside buildings with secondary containment, providing an added level of protection for the local area.

- 13) **Comment:** One commenter stated that Newark residents endured enough with Sandy from PVSC, pollution from the Passaic River and smoke from nearby facilities even though they had time to react. This commenter stated that with the amount of chemicals on site, the residents will not be prepared this time. (18)

Response: In the approved DPCC plan, NEC demonstrates compliance with the DPHS regulations, including protecting hazardous chemicals from flood waters. During construction, the site was raised so that the buildings that house the hazardous chemicals are three to six feet above the 100-year flood hazard elevation level. In addition, the site has been issued a flood hazard area permit by the Department's Division of Land Use. Secondary containment around the storage tanks will also provide protection from flood waters. It is unlikely that the chemicals stored at NEC would cause an incident during a flood event.

E) Environmental Justice Comments

- 1) **Comment:** One commenter stated that racism needs to be dismantled, and today environmental racism needs to be dismantled because it is black and brown people who are suffering from environmental racism because they are the ones who live in places with low air quality. (30)

Response: Rooted in the 1960's Civil Rights struggle, the Environmental Justice movement seeks to address these environmental inequities at the local, regional, state and national levels. In 1994, concerned citizens gained the right to address environmental injustices under Executive Order 12898 entitled, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," signed by President William Clinton. Executive Order 12898 institutionalizes a mechanism whereby state programs receiving federal funds must pro-actively address environmental concerns to ensure that minority and low-income

communities are not disproportionately impacted by environmental hazards.

The USEPA defines environmental justice (EJ) as:

The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.

- 2) **Comment:** One commenter expressed concern that approval of the proposed changes may pose an environmental injustice to the Ironbound community. (6) Another commenter stated that adding air pollution to overburdened EJ communities poses equity and justice issues. This commenter stated that it would seem to be unjust to add more pollution to poor and of color communities that are already bearing a disproportionate share of air pollution. (16)

Response: Over the past three decades, the federal government (Federal Executive Order 12898 (1994) (EO 12898)) and New Jersey (State Executive Order 131 (2009) (EO 131)), directed agencies to achieve “environmental justice” in decision-making. Environmental Justice includes the fair treatment and meaningful involvement of all people - regardless of their race, color, nation of origin or income. Environmental justice issues are important to the Department, as evidenced by the Department’s commitment to the Office of Environmental Justice and the Department-wide goal for “Enhanced Protection and Restoration of Environmentally Overburdened Communities.” The Ironbound community is one such community that is considered to be environmentally overburdened. Accordingly, the Department is committed to addressing any violations of environmental laws that may exist within the Ironbound community. Notably, all permit approvals are strictly enforced by the Department’s Division of Compliance and Enforcement. Furthermore, the Department has determined that the emissions from this plant will not cause significant air quality impacts.

- 3) **Comment:** One commenter stated that these changes are being made in an EJ community that is already overburdened with pollution. The commenter stated that being disproportionately of Color and poor makes Newark communities more vulnerable to the disproportionate amount of pollution from which the neighborhoods suffer and that this vulnerability is rooted in many factors that include health disparities, racial discrimination and a relative lack of resources. The commenter stated that the Department and USEPA should do everything in their power to decrease levels of air pollution because if they allow ambient concentrations of air pollution to increase, as proposed in this instance, the acknowledgement of and concerns about overburdened EJ communities expressed by these government agencies mean little or nothing to the communities suffering detrimental health impacts from airborne pollutants. (16)

Response: Please see response to comment A1 and A2 regarding pollution increases resulting from these permit changes.

The Department required extensive air quality modeling and confirmed that the plant would not cause any exceedances of the (NAAQS), Prevention of Significant Deterioration (PSD) increments, and SILs. Therefore, the Department did not identify any disproportionate adverse impacts on nearby communities that would affect issuance of this permit. No criteria have been provided by USEPA for determining the multi-media cumulative impacts of multiple pollutants on human health. For the protection of public health and welfare, USEPA has established NAAQS for individual pollutants. As part of the evaluation of this permit application, emissions of carbon monoxide, sulfur dioxide, nitrogen dioxides, fine particulate (PM_{2.5}) and inhalable particulate (PM₁₀) from the NEC project were modeled and, after representative existing background concentrations were added, compared to their respective NAAQS. All pollutants were predicted to be below their NAAQS by significant margins. Also, all pollutants were predicted to be below SILs in residential areas. It is unlikely that there will be adverse cumulative impacts from multiple air pollutants because all pollutants are below the. Please see response to comments B1 and B2 regarding modelling that was performed.

The Department has also taken numerous actions to improve air quality in Newark and the Ironbound community. Please see response to comment A11 for recent examples of emission reductions obtained in the Newark area.

The Department reviews each permit application that is received to determine whether the permit complies with the applicable State and Federal Air Quality Regulations. The Department thus ensures that any permit that is issued complies with all applicable State and Federal Air Quality regulations. If an application does not comply with any applicable regulation, the Department requires the applicant to address any noncompliance issues before further consideration of the permit application. In the permitting decisions before it, the Department appropriately considered environmental justice to reach its conclusion that there would be no disproportionate adverse impacts on minority communities and low income communities that should affect issuance of this permit.

- 4) **Comment:** One commenter stated that power plants, like this, across America are consistently placed in communities of poor people who get the poison and none of the profit. This commenter stated that this amounts to environmental racism. (17) Commenters stated that if this plant were proposed in Rumson or Short Hills, it would be denied. (21,22) Another commenter stated that poverty is a consistent problem in Newark, despite its revitalization in recent years; as of 2010, roughly one-third of the city's population is impoverished. The commenter stated that the fact that this is even a consideration makes

them wonder if poor minorities are getting the same consideration as neighboring communities in Bergen County. (35) Several commenters do not want this facility built in Newark and they stated that such a facility would never be built in other neighborhoods and it shouldn't be built in Newark. (2,10,14,17,20)

Response: Please see response to comment H4 regarding the siting of NEC in the Ironbound section of Newark.

With regards to "environmental racism", the New Jersey Department of Environmental Protection and its Office of Environmental Justice (OEJ) strives to ensure fair treatment for people of all races, cultures, and incomes, in the development, implementation and enforcement of environmental laws, regulations and policies. OEJ aims to empower citizens who are often outside of the decision-making process of government, and strives to address environmental concerns to improve the quality of life in New Jersey's urban and older suburban communities.

Please see response to comment E3 regarding the Department's review process for permit applications. The Department applies the applicable regulations in the same manner to each application it receives, regardless of the proposed location of each project. The Department does not factor the proposed location into its review of the application unless the applicable State or Federal Air Quality regulations require it to do so; for instance, regulations may apply differently in "nonattainment areas" than in "attainment" areas. Requiring the facility to be located in a different location would constitute redefining the project. The Department cannot ask the permittee to do this unless the proposed application fails to comply with some regulation, based on the proposed location of the facility.

- 5) **Comment:** One commenter stated that NEC is located in an overburdened environmental justice community and therefore geographic and EJ analyses should be performed and made available to the public before these permit modifications are approved. The commenter stated that in this case, an EJ analysis should include health data that provide information on existing disease burdens in Newark, cumulative impacts and analyses that provide information on the existing pollution burden in Newark. If these more detailed analyses are not performed, the commenter stated that at least an environmental load profile, as called for by the USEPA Region 2 Interim EJ Policy, and an equity analysis of the Department's permitting should be performed. The commenter stated that these analyses should determine whether the Department is in violation of Title VI of the 1964 Civil Rights Act. (16) Another commenter stated that one of the Department's priorities is to make recognizing the injustice that pollution imposes on overburdened communities a priority. This commenter stated that these permits offer an opportunity to address that. (27) Another commenter stated that there should be a more stringent review process when considering modifications in an EJ community. This commenter stated that since the Department recognizes the Ironbound as an environmental justice community, the

Department's review process should include the implementation of the precautionary principle, use of cumulative impact tools and the serious consideration of cumulative impacts policy. The commenters requests that the Department document how this has been operationalized in this case. ICC suggests the following:

- The air pollution modelling by NEC is insufficient and the Department must direct NEC to expand its modelling.
- A more stringent review process for permits in an EJ community should have led the Department to consider both permit applications as significant.
- The Department should have implemented a vigorous, comprehensive public process from the outset. (7)

Response: Please see response to comment E2 regarding the importance that the Department places on environmental issues in the Ironbound community.

The Department engaged in many efforts related to this project to involve the public in its decision-making, and ensure all applicable environmental and public health standards were met. For instance, the Department made this and all other applications available for the public to view upon request. Upon receipt of a permit application for a facility located in the Ironbound section of Newark, a notification email is automatically sent to the City of Newark and the ICC. The notification for permit activity (modification) BOP140001 was sent in June 2014 and the notification for permit activity (modification) BOP140005 was sent in September 2014. During the permit review process, The Department shared permit applications as well as supporting documentation and facility responses to ICC comments with ICC representatives. Representatives of the Department discussed these applications as well as issues raised by ICC with representatives of the ICC on several occasions, via telephone and offered to meet with ICC representatives for further discussion. On December 16, 2014, the Department notified ICC, the Mayor of Newark and the Environmental Commission of Newark, that the Department would be publishing a public notice in the Star Ledger newspaper on December 17, 2014, seeking comment on the draft permit that the Department proposed to approve. The published notice stated the Department's intent to approve (2) proposed permit modifications to the existing operating permit for the NEC facility, referenced several documents that would be available on the Department's website (draft permits and statement of basis) that contained additional information about the facility and the proposed permits. The notice also advertised the public hearing that took place on February 3, 2015. The Department provided 60 days, from December 17, 2014 through February 17, 2015, for the public to comment on the proposed permit. This was in addition to the opportunity provided since June (for permit activity (modification) BOP140001) and September of 2014 (for permit activity (modification) BOP140005), to comment on the applications. Based on the foregoing, the Department has complied with State Executive Order 131.

The Region 2 Interim Environmental Justice Policy (June 2000) states that this policy is solely “an approach and methodology Region 2 will use.” The Department has not engaged in rule-making to adopt this policy and the Department has not committed to USEPA.

Please see response to comment E3 regarding the Department’s review process for permit applications and air quality modelling.

Please see response to comment A11 regarding numerous actions the Department has taken recently to improve air quality in Newark and the Ironbound community.

As explained in the foregoing, the Department does not believe that EO 12898 requires the type of analysis that the commenter advocates. As USEPA stated in its Interim Guidance, “EO 12898 and the Agency’s EJ policies do not mandate particular outcomes for an action, but they demand that decisions involving the action be informed by a consideration of EJ issues.” USEPA’s Action Development Process, Interim Guidance on Considering Environmental Justice During the Development of an Action 5 (July 2010). In the permitting decision before it, the Department appropriately considered environmental justice to reach its conclusion that there would be no disproportionate adverse impacts on minority communities and low-income communities that should affect issuance of this permit.

Please see response to comment J1 regarding the classification of both permit applications as significant modifications. Please see response to comment J3 regarding the suggestion that the Department should have implemented a public process from the outset.

- 6) **Comment:** One commenter stated that the Department should take into account the impact of these changes, using the tools they have, such as the cumulative impact tool, and implement its cautionary principles. The commenter stated that the Department should uphold its commitment to protect New Jersey’s air, water, land, and historic resources and the Department should add protection of public health and safety to its commission. (27) Another commenter stated that the Department has data indicating that pollution is correlated with race and income in NJ, as demonstrated by figures based on a cumulative impacts screening tool developed by the Department. The commenter stated that these relationships violate our society’s sense of justice and that the Department should take steps to address them. (16)

Response: Currently, there is no State or Federal methodology established for evaluating cumulative risk from multiple environmental sources together, such as water, soil, and ingestion. The Department and USEPA require the use of air quality dispersion modeling to assess environmental impacts that may be posed by new and modified sources of air pollution. These air modeling assessments are made after first considering the most feasible and effective control

technologies. Results of air models are compared to ambient air quality standards to establish an environmental impact, relative to air quality. The applicant has demonstrated, as verified by the Department, that pollutant loads generated by this facility conform to all applicable State and Federal requirements.

The “cumulative impact tool” referred to by the commenters is a draft graphical information system (GIS) methodology that the Department developed. This data was developed as part of the Ironbound CARE Cumulative Impacts Project Work Group (Project Work Group), a diverse stakeholder group comprised of residents, business representatives and representatives of government and academic institutions formed to help implement the project. However, this draft methodology is not a “cumulative risk analysis” that correlates levels of pollution with human health impacts on different geographic areas. The Department made significant changes to this draft methodology as part of its past work under Goal 3 “Restoration & Enhanced Protection of Environmentally Overburdened Communities” (see <http://www.state.nj.us/dep/docs/depgoals.pdf>), but it is still considered a draft internal tool. The Department cautions external stakeholders from drawing conclusions from an incomplete and draft product.

The Department is committed to efforts providing restoration and enhanced protection of environmentally overburdened communities, including working with communities to ensure a thorough understanding of issues and potential solutions. The Department will consider the commenter’s suggestion in the context of those efforts.

Please see response to comment A11 regarding the Department’s recent efforts to reduce emissions in Newark and other urban communities.

- 7) **Comment:** One commenter stated that Newark is a multicultural city with a huge Portuguese community and a huge Latino population. The commenter stated that the Department needs to take the steps necessary to inform the community about such an important matter because this facility is going to have long-term health and quality of life impacts on the resident’s lives. The commenter stated that the Department should make information available about what, if any, community benefits this facility is bringing, since it is going to be impacting the longevity of our lives. (29)

Response: The Department agrees with the commenter’s assertion that the City of Newark is a multicultural city. Accordingly, the Department makes every effort to provide bilingual staff (i.e. Portuguese, Spanish and Russian) for translation purposes at public hearings and meetings, as needed. The Department has also received support in this area from the ICC; they have willingly volunteered assistance with their bilingual staff in the areas of oral translation and reproduction of written materials from English to other languages. While the Department’s

communication practices do not require multilingual translation and the Department does not always have the resources available to provide such translation, the Department continues to enhance its public outreach to include the use of bilingual staff, to the extent practicable, in addition to other partners and stakeholders to assist us in our community engagement, as aforementioned.

F) Renewable Energy / Greenhouse Gas Comments

- 1) **Comment:** One commenter expressed concern regarding greenhouse gas emissions which would be emitted by a natural gas fired facility, such as NEC. (32)

Response: The approved operating permit for NEC, which complies with all applicable rules and regulations, including PSD for greenhouse gasses, allows the combustion of natural gas in several sources. The pending modifications do not request an increase in the quantity of natural gas to be combusted nor the ability to combust natural gas in any new sources. Therefore, greenhouse gas emissions are outside the scope of the Department's review of these permit applications.

- 2) **Comment:** Commenters stated that New Jersey should be relying on clean, renewable energy sources for our energy needs, rather than gas-fired generation. (22, 32)

Response: NEC is not preventing development of renewable energy sources. New Jersey encourages the development of renewable energy technologies with its Renewable Energy Portfolio Standards (RPS). A diverse energy supply portfolio, including natural gas and renewables, is an effective hedge against the uncertainties and risks associated with energy generation.

- 3) **Comment:** One commenter stated that the new source performance standards (NSPS) recently adopted by the USEPA were a positive step toward alleviating air pollution caused by natural gas production, but they are incomplete, they fail to cover many sources of air pollution in this area and do not directly control methane emissions. (32)

Response: The proposed modifications do not trigger applicability of the recently adopted NSPS standards. Therefore, the recently adopted NSPS standards are outside the scope of the Department's review of these permit applications.

- 4) **Comment:** One commenter expressed concern about the use of natural gas in the generators for 100 hours per year of testing, particularly since they are not operating and testing at the same time because it may not fall within the legal requirements. The commenter stated that PVSC has been approved for a natural gas generator as well. The commenter stated that we need to look at air quality with the resident's walking in mind. (18)

Response: The existence of a generator at another facility, such as PVSC, is outside the scope of the Department's review of these permit applications. The Department assumes that the commenter is referring to the emergency generator that is located at NEC. This generator is permitted to burn ultra low sulfur diesel (ULSD) fuel only, not natural gas. An "emergency generator", such as this, is only permitted to operate during the periods specified in the definition of "emergency generator" at N.J.A.C.7:27-19.1. Operation during normal testing and maintenance procedures is required to ensure that the generator will be able to provide power if an "emergency" occurs and it has to be operated. Operation during normal testing and maintenance is limited to 100 hr/yr. That doesn't mean that it necessarily will operate for 100 hr/yr for testing and maintenance but it cannot operate for more than 100 hr/yr for this purpose. Since operation for testing and maintenance can be scheduled, as opposed to operation during an emergency, the operating permit further restricts the times during which operation for testing and maintenance can occur. Testing and maintenance sessions are restricted to 30 minute intervals, the emergency generator and fire pump cannot be tested at the same time, the generator cannot be tested during startup of the turbines or auxiliary boiler and the generator cannot be tested on a day when the Department forecasts air quality anywhere in NJ to be "unhealthy for sensitive groups", "unhealthy" or "very unhealthy". The intent of these restrictions is to minimize the effect that the generator emissions will have on the community. Since emergencies are not predictable, it would be impossible for NEC to schedule the testing and maintenance to be done during emergency operation of the generator.

- 5) **Comment:** One commenter stated that the statistics that were given before these proposed changes were that it was going to emit 2.6 billion tons of carbon dioxide. (24)

Response: NEC has the potential to emit a total of 2.0 Million tons of greenhouse gasses as carbon dioxide equivalent (CO₂e). This value is an enforceable permit limit (GR2, REF#1). The current operating permit for NEC demonstrates Best Available Control Technology (BACT) for greenhouse gasses. The proposed modifications will not increase the potential greenhouse gas emissions from the NEC facility so the existing BACT determination is still valid.

- 6) **Comment:** One commenter stated that the Governor's energy plan made a commitment on offshore wind but the only thing we are seeing is more gas-fired power plants across the state. (4)

Response: The Governor's energy plan is outside the scope of the Department's review of these permit applications. Please see response to comment F2 regarding alternative energy sources such as offshore wind.

- 7) **Comment:** One commenter stated that the draft permit does not refer to the impact on global warming pollution. This commenter stated that under the Regional Greenhouse Gas Initiative (RGGI), the project would pay \$5 Million for the carbon pollution that it emits; but NEC does not have to do that. (4)

Response: As of 2012, New Jersey no longer participates in RGGI, therefore, no sources in the State are subject to any RGGI requirements. In May 2011, Governor Christie announced that the State would withdraw from RGGI by the end of 2011, which coincided with the end of the first control period of the regional CO2 budget trading program. Consistent with the Governor's announcement, New Jersey formally notified the RGGI states on November 29, 2011, that it was withdrawing from RGGI and would no longer participate as of January 1, 2012.

(http://www.rggi.org/docs/Documents/NJ-Statement_112911.pdf.) The Department posted a notice to that effect on its website, explaining that because New Jersey was a participant in RGGI through the first control period (2009 through 2011), budget sources in New Jersey remained subject to the CO2 Budget Trading Program rules for only this three-year control period. The budget sources would not be subject to compliance with CO2 Budget Trading Program rules for control periods that commenced on or after January 1, 2012. Thus, New Jersey and CO2 budget sources within New Jersey no longer participate in RGGI.

NEC's operating permit contains greenhouse gas emission limitations for each piece of equipment (GR2, REF #2,6,7,8) as well as a facility wide emission limitation (GR2, REF #1).

Please see response to comment F5 regarding applicability and compliance with BACT regulations for greenhouse gasses.

G) Compliance and Enforcement Comments

- 1) **Comment:** One commenter stated that if the Department is inclined to approve these permit applications, it should also implement the following:
- NEC should be required to offset PM through community mitigation projects.
 - Any violations from this facility should result in penalties and trigger supplementary environmental projects that benefit the locally impacted environment.
 - The Department should implement enhanced inspection, monitoring and compliance oversight of this facility in light of the cumulative burdens that have already been established and recognized by the Department to exist in the Ironbound community. There should be frequent inspections of the facility (quarterly at minimum), regular stack testing (more than once per year) and close oversight

of compliance reporting submitted by the applicant.

- d. ICC formally requests that any future permit modifications, compliance reporting and inspection and enforcement actions be shared with ICC and the City of Newark's Sustainability Office. (7)

Response:

- a. On May 2, 2012, the City of Newark pursuant to resolution 7R3D (AS) approved the execution of an agreement between the City of Newark and NEC in which NEC committed to provide 12.65 Million dollars to the City of Newark for various environmental and community programs. The table below is a summary, provided by the City of Newark, which shows the status, as of August 1, 2014, of the projects that were funded by NEC pursuant to this resolution.

Table G1. August 1, 2014 Summary of Expenditures for \$12.65 Million Settlement
Provided by NEC, Pursuant to Resolution 7R3D(AS)

Project	Amount Allocated	Amount Spent	Activities To Date
Newark Tree Planting Program	\$1,500,000.00	\$750,000.00	~800 street trees planted based on need and resident requests
			120 teenagers employed over 2 summers with 6 community groups to map street trees, engage neighbors, and document experiences
			60 Newarkers trained as Treekeepers
			Urban Forester engaged
			Tree canopy overview and needs assessment completed
			\$173k in additional funds leveraged for youth engagement
Newark Green and Healthy Homes	\$2,000,000.00	\$280,000.00	Production team assembled with reps from city agencies, weatherization, labor, utility, hospitals, managed care, SCHI
			Project manager hired
			IRB approved by Beth Israel for asthma pilot
			Needs assessment and resource map completed by GHHI national
			Asthma mapping conducted by Greater Newark Healthcare Coalition
			Initial homes targeted and assessed
			\$80k in additional funds leveraged for roof repair pilot project

Anti-idling	\$100,000.00	\$10,000.00	Anti-idling signs purchased, hotspots identified. Signs about to be installed by Engineering
Air quality monitoring	\$100,000.00	\$10,000.00	Clean Air Taskforce convened and began regular meetings.
			Research conducted on local air monitoring systems, especially in NYC.
			Citizen Science air monitoring project with USEPA commenced.
			School projects under development.
Riverfront Park Programming	\$100,000.00	\$100,000.00	Funds used to support riverfront coordinator.
			Riverfront coordinator oversees all programming at Newark's first waterfront park, which opened in 2012. Boat tours, yoga, zumba, movie night, House dance parties, and educational workshops have brought thousands of Newarkers to the river for the first time in the last three years. The fiscal agent for this program is now ICC.
Staff expenses	\$200,000.00	\$200,000.00	Funds expended in 2012 on Sustainability Office staff
Ironbound Stadium Rehab	\$5,000,000.00	Unknown	No Information Provided
Large Building Boiler Replacement Program	\$3,000,000.00	Unknown	No Information Provided
Job Placement Program	\$500,000.00	Unknown	No Information Provided
Pre-Apprenticeship Program	\$150,000.00	Unknown	No Information Provided
Total	\$12,650,000.00	\$1,350,000.00	

- b. Violations for Newark Energy will be addressed in accordance with the New Jersey Administrative Code 7:27A, Air Administrative Procedures and Penalties and the Air Pollution Act. The Department will make an effort to include Supplement Environmental Projects and Mitigation Projects in NEC settlements as appropriate.
- c. Compliance inspections of the facility will be conducted in accordance with the Compliance Monitoring Strategy Plan as mandated and approved by the Federal USEPA for this facility. The operating permit includes comprehensive monitoring, recordkeeping and submittal requirements. All reports the facility submits to the Department which include required quarterly, semiannual, and annual reports will be reviewed to ensure compliance with all applicable State and Federal air pollution regulations and air permit requirements.
- d. The Department notifies the City of Newark as well as ICC as soon as a permit application is

received for a facility in the Ironbound community. The results of all inspection reports and enforcement actions will be available to the public via the Department's Data Miner website which can be found at <http://www.nj.gov/dep/opra/online.html>.

H) Environmental Burden within Ironbound Comments

- 1) **Comment:** One commenter stated that Newark residents have the top ratings for all devastating illnesses like cancer, asthma, stroke, heart disease and diabetes; their children suffer from disease as well including lead poisoning. This commenter stated that this dirty energy mentality is no good. (32) Another commenter stated that Newark children suffer from a 1 in 4 asthma rate which is three times higher than the state average of 1 in 12 and that asthma is the leading cause of absenteeism for school age children in Ironbound. (35) Another commenter stated that asthma rates are clearly at epidemic levels with over 650,000 adults and close to 200,000 children who suffer from asthma. This commenter stated that to assume this plant is not going to impact those communities is criminal from a health perspective. (4) Another commenter is tired of opening a window and the air smells bad and tired of asthma, these things come from the factories all around the world. (8) Another commenter stated that Medical / Environmental studies have concluded and are still investigating the cause of many acts of violence, asthma, various breathing conditions, and mental impediments (especially evidenced to school age youth) in cities of Newark/Irvington/East Orange/Jersey City. The commenter stated that these studies all involve cities that are surrounded by a lot of pollution: airport, port Newark (trucks and boats), chemical and oil refineries, even Kearny produced Agent Orange. This commenter expressed concern that changes proposed by the pending permit applications will cause many related deaths among the residents as well as the thousands of workers who pour into these cities daily. (39) Another commenter stated that NEC represents a real threat to the future health of all of us, especially our children. The commenter expressed concern that their neighbor has trouble breathing now when the air comes from the East and questions what will happen to Ironbound residents with all of those chemicals right in their backyard? (36)

Response: The Department appreciates the commenters' concerns about devastating illness ratings in the cities of Newark/Irvington/East Orange/Jersey City and the environmental and health effects of air pollutants in urban areas. The Department regulates sources of air pollution to assure compliance with the national ambient air quality standards, which are standards set by the USEPA to protect the public health with an ample margin of safety, including sensitive populations. In other words, the air quality standards are based on known health effects, including asthma. The Department requires pollutant sources to employ state of the art control technologies to minimize emissions. N.J.A.C. 7:27-13.2(a) states the air quality objective in applying both technology and air quality requirements to new and modified equipment.

Whereas air is vital to life and contamination of it to any degree is a condition to be endured reluctantly; and whereas our knowledge of the long-term harmful effects of low levels of contamination is incomplete and uncertain; therefore, it is the air quality objective of the Department to assure, at all times and throughout the territory of the State, ambient air of the highest purity achievable by the installation and diligent operation and maintenance of pollution source control devices and methods consistent with the lawful application of the most advanced state of the art.

Moreover, as explained in response A11, the Department has taken many actions and will continue to take action to improve the air quality in Newark and the Ironbound Community.

- 2) **Comment:** One commenter stated that these are very dangerous chemicals which could cause cancer or asthma, if they get into the air that residents breathe. (10) Several commenters stated that the NEC plant will already cause significant impacts to the lungs of the people in the community, especially those with asthma and respiratory diseases. These commenters expressed concern that if the Department approves the proposed changes to the permit, Newark communities will receive higher concentrations of air pollution which will further devastate the health and well-being of Newark residents. (21,33,36,37) One commenter stated that this type of pollution has been linked to asthma, autism and a variety of other health issues already among some of the highest in the state and the commenter stated that increasing the concentration will only make a bad condition worse. (37) Another commenter stated that more air pollution like the stuff that will come from NEC can cause more people to have children with autism. (36)

Response: Please see response to comments A1 and A2 regarding the potential for increased emissions from the NEC facility. Please see response to comment A11 regarding the Department's efforts to reduce the impact of emissions in the Ironbound and other areas.

- 3) **Comment:** One commenter stated that Newark, NJ already has its share of superfund sites and does not require any more filth and dangerous sites placed within its borders. This commenter questions why a city loaded with superfund sites would be targeted for another site. This commenter also stated that according to the Toxic Release Inventory in 2004, more than 150,000 lbs of emissions which includes 56 toxic chemicals including hydrazine, benzene, and mercury, were released from 23 facilities in the Ironbound Newark NJ and the state's largest solid waste incinerator is located in Newark NJ. This commenter stated that "this has to stop now"! (35) Another commenter stated that Newark is still dealing with the legacy of industrial contamination from Manufacturers Place to the extreme lead poisoning of its playgrounds and homes. The commenter stated that all of these issues come from weak governmental enforcement of the law and from laws that are too lenient. The commenter stated that it is hard to get closure from these issues when it seems that every day new facilities are being given the green light to use Ironbound as a dumping area. This commenter also stated that the residents are trying to build better lives here and proposals, such as this, provide a true handicap to their attempt to have a

Newark Renaissance. (12) Another commenter stated that we need to stop littering our community right now because otherwise our community will be dirty. (13)

Response: NEC is not a superfund site. However, the Department is committed to addressing any sources of contamination and contaminated sites in the Ironbound section of Newark. Enforcement of permit conditions and the requirement that any contaminated site is remediated under the recently implemented Site Remediation Reform Act will result in the clean-up of these sites. Please see response to comment A11 for some recent actions that the Department has taken to improve the air quality in Newark and the Ironbound Community.

The State of New Jersey is a leader in Environmental protection. New Jersey often leads other states in passing laws that require facilities to install advanced emission controls to reduce their emissions. For instance, in May 2009, New Jersey adopted new NOx RACT regulations that required several electric generating facilities to obtain NOx emission reductions on high electric demand days. This regulation also requires all high electric demand day (HEDD) electric generating units to comply with a much more stringent NOx emission limit by May 1, 2015, or cease operating. As a result of this "HEDD rule", 130 HEDD units in NJ are expected to shut down, 15 peaking turbines have installed additional NOx controls and 5 oil fired boilers have converted to cleaner natural gas firing. The State of New Jersey also encourages other States, particularly those "upwind" of New Jersey, to reduce regional emissions by commenting on rule proposals and permit applications in those states and by participating in organizations such as the Ozone Transport Commission (OTC) and Northeast States for Coordinated Air Use Management (NESCAUM).

Through its permit application review process, the Department ensures that any permit application that is approved complies with all applicable State and Federal Air Quality regulations and that the total impact of any changes made are less than the applicable NAAQS, which are designed to protect public health and public welfare. Please see response to comment E3 regarding the Department's review process for permit applications and air quality modelling.

- 4) **Comment:** One commenter stated that Newark is already overburdened and questioned that if New Jersey is so much in need of increased infrastructure, in terms of energy, why isn't it built in other cities where there is no industrial burden already? (12)

Response: The siting of NEC is outside the scope of the Department's review of these permit applications. The Department does not possess authority to determine where power plants are sited in NJ. The authority to site this facility, along with other electric generating facilities in this State, is shared among local government which has land use planning and zoning powers, the Federal Energy Regulatory Commission (FERC), and PJM Interconnection LLC (PJM), the

regional transmission organization.

The Newark site was selected by NEC due to its proximity to an adequate natural gas supply, an electrical interconnection point, a readily available supply of cooling water and the end users whose electricity demand will be satisfied by NEC. It is also an industrial area within which power plants are a permitted use.

- 5) **Comment:** One commenter stated that the City of Newark bears a disproportionate share of the air pollution burden for the region when it comes to infrastructure such as energy, waste, and transportation, which means Newark's residents and workers are exposed every day to toxins that worsen their quality of life, increase incidence of illnesses such as asthma, heart disease, and cancer, and lead to earlier deaths. This commenter further stated that it is a matter of concern to city government when the State makes a decision to permit a major new power plant to alter its design in ways that are likely to increase ambient concentrations of pollution and to transport, store, and use large volumes of toxic chemicals within our borders. (3)

Response: Please see response to comment A1 and A2 regarding an increase in pollution due to the proposed changes. Please see response to comment E3 regarding the Department's review process for permit applications and air quality modelling. The proposed modifications comply with all applicable State and Federal air quality regulations.

- 6) **Comment:** Commenters stated that if these changes are approved NEC will have over 20,000 tons of chemicals which will affect the surrounding communities and the Essex County Jail. The commenter stated that all of these chemicals can cause asthma and cancer in kids and are bad for people who have asthma, women who are pregnant or anyone who has cancer or autism because these conditions can be made much worse. (24,25,30)

Response: The application proposes an increase, to 2,267 tpy, in the permit limit for chemical additives to be added to the cooling tower water. The application does not request, nor is the Department approving an increase in any permit limit for air pollutants from any source at the NEC facility. Please see response to comment A2 for a discussion of the reason these additional chemicals are needed and why this increase will not cause additional emissions from NEC.

New Jersey air pollution rules require emitters to limit their releases to minimize health impacts. Target levels are determined by NAAQS and risk assessment. New Jersey's air quality is now cleaner than the current annual and 24-hr health standards for fine particulates (12 ug/m^3 and 35 ug/m^3 , respectively). This monitored air quality improvement reflects the success of State and Federal efforts to control existing sources of air pollution, which is resulting in the replacement of many higher emitting sources with much lower emitting sources, creating an overall net air quality

improvement in Newark and throughout New Jersey. The Department intends to continue its efforts to reduce air pollution from existing sources and realize continued air quality improvements in New Jersey, and especially in our urban areas.

I) Agreement between Newark and NEC Comments

- 1) **Comment:** One commenter stated that the NEC is not keeping the agreement that it made to stop some of the damage to the Newark community caused by the additional pollution from their new plant plus the danger of toxic chemicals stored on site and that NEC has decided to make things more dangerous and more damaging for the Ironbound neighborhood. This commenter asks why has NEC decided that the health and well-being of Ironbound families is so unimportant? (24) Another commenter stated that when the NEC plant was first proposed, assurances were given that the residents of the Ironbound community and the city of Newark would be safe from any potential danger related to any type of pollution emanating from the plant's chimneys and stacks. This commenter stated that a contract was signed with the residents of a community and a city and now the Department wants to change the terms of the original contract and this should not be done at the expense of the health of the residents of this community and this city. (1)

Response: The Department assumes that these commenters are referring to Resolution 7R3D(AS), which was adopted by the Municipal Council of Newark on May 2, 2012. This document is an agreement between the City of Newark and NEC and is independent of NEC's operating permit. The Department does not have jurisdiction over this agreement nor does the Department have the authority to change or enforce this agreement. Please see response to comment G1 regarding the status of projects funded by this agreement. Please see response to comment H3 regarding the Department's commitment to addressing any sources of contamination and contaminated sites in the Ironbound section of Newark.

- 2) **Comment:** Commenters stated that the State (Department) is modifying the agreement between the City of Newark and the facility (NEC). One commenter stated that it was the city's decision to accept the plan and they don't need the State to come in and take over and change the process after its all been laid out. This commenter stated that if this is allowed, every single chemical company could bypass zoning and planning and go directly to the State to get what they want. (2) One commenter expressed concern that the State is modifying the original agreement and extending two new permits without coming before the elected officials, as well as the community. This commenter stated that if the State wants to make changes to the agreement, it should go back to the same process, which is the community and elected officials. The commenter stated that this wouldn't be allowed in any other community and it

doesn't happen outside this community of black and brown people. (31)

Response: Please see response to comment I1 regarding modifying the agreement between the city of Newark and NEC. NEC's operating permit, which is the subject of this public comment period is issued by the Department and contains any State or Federal Air Quality rules and regulations that apply to the sources at the facility. The Department and its operating permit do not have jurisdiction over city rules and regulations nor are they responsible for enforcing them. The operating permit is not meant to include city requirements nor is it meant to exempt facilities from complying with city requirements. It is NEC's responsibility to comply with any applicable Newark regulations and to get any necessary approvals from the city of Newark, independent of the operating permit, which they must get from the State of NJ. This is standard operating procedure in all NJ communities.

- 3) **Comment:** One commenter stated that the original settlement provided for certain payments to fund environmental programs and these provisions were reiterated in the Newark Central Planning Board resolution. This commenter stated that a conversation about new local mitigation strategies is appropriate as part of this permit approval, given the new burdens the community is being asked to bear in the name of regional energy resilience and private profit for the corporation that will own and manage the plant. (3)

Response: Please see response to comments I1 and I2 regarding jurisdiction of Resolution 7R3D(AS), which required NEC to fund local projects in Newark as a mitigation strategy. The Department does not have the authority to renegotiate this agreement.

There will be no emission increases as a result of the proposed permit modifications. Please see response to comments A1 and A2 regarding potential burdens that will be created by the proposed modifications. Please see response to comment A6 regarding emission offsets that were obtained, pursuant to N.J.A.C 7:27-18.

- 4) **Comment:** One commenter stated that the failure of the mitigation plan is criminal from a public health perspective and that these permit modifications will lead to more pollution impacting more kids. (4)

Response: Please see response to comments I1 and I2 regarding jurisdiction over the mitigation plan. The changes that are being approved in these modifications will not allow additional pollution to be emitted from the NEC facility. Please see response to comments A1 and A2 regarding the effect of the proposed changes.

- 5) **Comment:** Commenters expressed concern that the alterations made to the design of the project and the increase in chemical use constitutes changes to the site plan originally approved by the Newark Central

Planning Board in May of 2012. These commenters stated that revised plans should be submitted to the Newark Central Planning Board for reconsideration and that additional conditions may be deemed appropriate based on the changes being made to the plan. The City of Newark asks that the State postpone its approval of the revised operating permit until the Central Planning Board has had a chance to review the new design and issue a new decision. If the timeline for State approval is inflexible, then the City of Newark requests that the State make its approval conditional on the applicant obtaining the relevant local approvals for its change for plans. (3,7)

Response: Please see response to comment I2 regarding jurisdiction of the Site Plan that was approved by the Newark Central Planning Board. There is no need for the Department to delay processing these permit applications or to make the approval of the pending permit applications conditional on obtaining the relevant local approvals because Operating Permits issued by the Department are completely independent of the City's Site Plan or any other City requirement.

J) Permitting Process Comments

- 1) **Comment:** One commenter stated that all of the modification requests must be considered "significant" because the change in the stack parameters and emission points impact the velocity, direction and amount of the air contaminant emissions and that under N.J.A.C.7:27-22.23(c)5, such changes are not minor. This commenter stated that the lower stack heights for the Diesel generator and Diesel fire pump will likely increase local area emissions. (6) Another commenter stated that while not every modification to an existing approved project in an EJ community should be automatically considered significant, certainly ones that may have an impact on the public health and safety of an already vulnerable population should be. (7)

Response: The classification of permit type is based on New Jersey regulations at N.J.A.C.7:27-22. In order to be considered a "significant modification", the criteria at N.J.A.C.7:27-22.24(b) must apply to the application. Permit activity (modification) BOP140001 is a minor modification, pursuant to N.J.A.C. 7:27-22.23(c)5. Please see response to comment A1 regarding the lowering of stack heights and resulting increase in local area emissions.

- 2) **Comment:** One commenter stated that rules at the State level are still such that this proposed increase is being treated as a minor modification and is not triggering any additional conversation about local mitigation. The commenter urges the State to accelerate its efforts to change these rules so that they are more protective of human health when it comes to cumulative impacts of air pollution in overburdened communities. (3)

Response: Please see response to comments A1 and A2 regarding emission increases from the proposed changes. Please see response to comment J1 regarding determination of permit type. Permit activity (modification) BOP140001 is a minor modification pursuant to N.J.A.C. 7:27-22.23 and was therefore processed according to this regulation. However, this application was subjected to public comment and a public hearing, pursuant to N.J.A.C. 7:27-22.23(i) due to significant public interest and a request by the public. Please see response to comment A6 regarding the state requirement to obtain emission offsets. Please see response to comments I1 and I2 regarding jurisdiction of local mitigation efforts that were negotiated by the City of Newark.

- 3) **Comment:** One commenter expressed concern that the requested permits were on track to be approved in December 2014 without any chance for the public or the local government to comment. This commenter stated that the hearing only took place at the insistence of local environmental justice advocates and because of the vigilance of these advocates. (3)

Response: This public comment period covers (2) applications for modifications to the NEC Operating Permit. Permit activity (modification) BOP140001 is a minor modification which was processed according to New Jersey's regulations for minor modifications. These regulations do not require a public comment period, unless there is significant public interest. Once a request for public comment period and public hearing on this permit application was received by the Department, the application was subjected to public comment and a public hearing, pursuant to N.J.A.C. 7:27-22.23(i). Permit activity (modification) BOP140005 is a significant modification and therefore it also was subjected to public comment, pursuant to N.J.A.C. 7:27-22.11(a)2. This application was also subjected to a public hearing, pursuant to N.J.A.C. 7:27-22.11(f).

- 4) **Comment:** One commenter requested a public comment period and meeting at the State and Federal level for the community and public at large under N.J.A.C. 7:27-22.23(i) because the environmental justice community has a "significant degree of public interest" in these permit applications. (6) Another commenter stated that an already overburdened community should have the opportunity, if not the right, to be heard early in the review process of a new facility or a modification to an existing facility especially a major facility like NEC. (7)

Response: The Department follows New Jersey's regulations when processing a permit application. For minor modification, permit activity BOP140001, the Commissioner of the Department of Environmental Protection determined that there was a significant degree of public interest in the application so a public comment period and public hearing were held for this application, pursuant to N.J.A.C. 7:27-22.23(i). Permit activity (modification) BOP140005 is a significant modification and therefore it also was subjected to public comment, pursuant to

N.J.A.C.7:27-22.11(a)2 and was subjected to a public hearing, pursuant to N.J.A.C.7:27-22.11(f).

The Department has an enhanced process which it follows when reviewing permit applications for facilities in Environmental Justice areas, such as the Ironbound. In addition to all applicable NJ Regulations, this process requires the Department to notify the City of Newark and ICC of any permit application that is received by the Department for a facility within the Ironbound community. The Department then makes itself available to meet with the public to discuss issues or to respond to requests for information received from the public. The Department makes every effort to share available information with the community and encourages the facility to do the same. Please see response to comment E5 regarding the implementation of this process for these applications.

- 5) **Comment:** Several commenters stated that the public hearing should have been held at a better location and time for people to have access to it. These commenters stated that a lot of people rely on public transportation and would have to walk a distance to get to this location and that the snow and ice made it difficult and dangerous to travel to the hearing location. One commenter stated that on the way to the hearing, someone almost tripped and fell because it is icy out. (15,18,23)

Response: The Department tries to schedule public hearings at a location that is near the facility for which the hearing is being held. However, the location at which the hearing is held must also have a large enough room to accommodate the people that might attend the hearing, seating for those who may attend, microphones and a sound system so that commenters and Department representatives can be heard by all in attendance, and adequate parking available for those who wish to attend the hearing. There is a limited number of sites in any given area that meet all of these requirements so the Department must find the best location available. The Department cannot control the weather nor how well the streets and sidewalks of Newark are cleared when a storm occurs. Since the roads and sidewalks were clear enough for Newark public schools to be in session on the day of the public hearing, the Department did not see any reason to reschedule the hearing.

- 6) **Comment:** Several commenters stated that the Department already decided that the proposed modifications were fine before hearing any comments regarding the kind of damage that can be done to the community. (5,6,7,24) One commenter stated that the public comment process should be mutually respectful and meaningful for all interested parties but when Government representatives announce their intentions, prior to hearing the public concerns and questions, the integrity of the process is no longer above question. (7)

Response: The Department followed NJ regulations. After reviewing the permit applications

and determining that they comply with all applicable State and Federal air quality regulations, the Department proposed to approve these applications, pending the resolution of any comments that may be received during the public comment period. The Department's proposal to approve these permit applications is based on its determination that these permit changes comply with all regulations. As stated in the opening statement at the public hearing "If anyone demonstrates to the Department that the facility would not comply with any of the applicable air pollution control laws and rules, the Department's proposed decision to approve these permits or the requirements imposed in the draft permits may be changed."

- 7) **Comment:** One commenter stated that government procedures generally require full transparency and the procedures involving designated EJ communities should be transparent and respectful of community participation beyond any doubt. The commenter stated that the process has fallen short thus far for the following reasons:
- a. Prior to the community's advocacy, the Department had no plans for public notice or process for permit activity (modification) BOP140001.
 - b. Rather than proactively scheduling a public hearing on this important issue in an EJ community, the Department had to be persuaded into doing so.
 - c. Recognizing that the affected EJ community is a multilingual one, the Department should have issued notices in multiple languages, regarding the public hearing, but failed to do so.
 - d. The Department should have scheduled the hearing in the Ironbound but failed to do so.
 - e. At the public hearing, the Department announced its intention to approve the air permits in question prior to hearing one word from the affected EJ community.
 - f. Early in the permitting process, the BELC sent several letters to the Department to no avail in that they were never responded to prior to the public hearing. (7)

Response:

- a. Please see response to comment J3 regarding the public notice and process that was held for BOP140001.
- b. Please see response to comment J3 regarding the scheduling of a public hearing. The Department is not required to hold a public hearing unless a public hearing is requested by the facility or a member of the public or unless the Commissioner of the Department determines that there is a significant degree of public interest. After receiving a letter, dated October 8, 2014, which requested a public comment period and hearing on both of these applications, the Commissioner determined that there was a significant degree of public interest in both applications and the Department scheduled a public comment period and public hearing for both applications.
- c. At this time, the Department does not have the resources needed to accommodate this request. Please see response to comment E7 regarding the Department's efforts to provide translation services when possible.

- d. Please see response to comment J5 regarding the location of the public hearing.
- e. Please see response to comment J6 regarding the permitting process by which the Department proposed to approve a permit application.
- f. EELC sent (2) letters to the Department, one dated October 8, 2014 and one dated November 3, 2014. NEC emailed information that was requested in these letters to EELC on November 4, 2014. The Department also had telephone conversations with representatives of ICC, during which some of these issues were discussed. The Department contacted ICC several times during December 2014 and January 2015 to schedule a meeting with them to discuss any issues that they had with these applications, prior to the public hearing. A conference call was finally held on January 23, 2015, during which the Department provided a response to each question posed in EELC's letters and discussed those responses with the call participants.

8) **Comment:** One commenter requested a full and transparent public engagement and stated that there should be transparency in public notification for the communities on all changes, even the ones that the State deems minor. (27)

Response: The Department notifies the City of Newark and ICC of any permit application that is received by the Department for a facility within the Ironbound community. The Department then makes itself available to meet with the public to discuss issues or to respond to requests for information received from the public. The Department makes every effort to share available information with the community and encourages the facility to do the same. Please see response to comments E5 and J7 regarding the transparency of these permit applications.

9) **Comment:** Some commenters stated that there doesn't seem to be a true consideration of the facts. These commenters asked for actual due process and for the Department to review the facts. (12,15) One commenter stated that these new applications must stand on their own merit, not on the simple fact that a large investment has been made in this plant or on the influence of anybody else. (7) Another commenter stated that under the pressure from corporations and their money being brought into the State, The Department has failed to acknowledge the present excessive pollution especially in Newark. This commenter stated that the Department is part of the environmental abuse. (39)

Response: The Department reviews each permit application that is received to determine whether the permit complies with the applicable State and Federal Air Quality Regulations. The Department thus ensures that any permit that is issued complies with all applicable State and Federal Air Quality regulations. If an application does not comply with any applicable regulation, the Department requires the applicant to address any noncompliance issues before further consideration of the permit application. Neither the size of the investment that has been made thus far into this facility nor the influence of supporters of this facility are considered in the Department's review of an application, nor will those influences change the facts as to whether

the changes comply with any rule or regulation that is applicable to the facility. Please see response to comments B1 and B2 regarding the cumulative modelling that was done on the proposed changes in order to evaluate the effect of these changes and the present level of pollution in the environment.

- 10) **Comment:** One commenter stated that workers who are exposed to chemicals in their work environment will now come home and continue to be exposed at home with the same chemical exposure. The commenter further stated that all of this is permitted through the Department's process. (29)

Response: The Department carries out permit application reviews consistent with the applicable rules and regulations. The changes proposed by these applications comply with all applicable air quality rules and regulations. The facility has been re-modelled using the "as built" stack parameters and the health risk was found to be negligible (please see response to comments B1 and B2 for details).

K) Mitigation Comments

- 1) **Comment:** One commenter stated that NEC claims to have satisfied the NOx and VOC offset requirement, however, the public is not aware of how this requirement was satisfied and whether offsets were purchased in the immediate vicinity of the impacted community. (6) Another commenter stated that the original permit for this plant required certain offsets to be purchased for VOCs and NOx and that these were purchased "within 100 miles of Newark", but that these offsets were not offered or applied to any projects within Newark. The commenter further stated that no additional offsets or mitigation is being triggered by the proposed changes, even though both the air pollution and chemical storage impacts could worsen local quality of life and increase local risk. (3) Another commenter questioned why, if NEC couldn't provide an offset for the air pollution in the Ironbound or in Newark, they didn't at least do it in the county, so that this region would benefit. (28)

Response: NEC obtained the necessary quantity of emission offsets for NOx and VOC during the initial operating permit review. The source and quantity of emission offsets obtained was publicized in the Department's Initial Operating Permit (BOP110001) Fact Sheet, which was prepared and made available to the public in June 2012, during the public comment period for BOP110001. The following table, summarized from the Department's Fact Sheet Table I, lists the offsets obtained by NEC.

Table K1. NOx and VOC Emission Offsets Obtained by NEC

<u>NOx Emission Offsets Obtained by NEC</u>		
Offsets Obtained (tpy)	Facility of Origin	County of Origin
41.20	Simkins	Bergen
10.63	GM Linden	Union
11.08	3M Co.	Somerset
6.00	BASF	Warren
42.90	KMS Crossroad	Bergen
13.40	Glen Gery	Somerset
67.07	Gerdau	Middlesex
<u>VOC Emission Offsets Obtained by NEC</u>		
Offsets Obtained (tpy)	Facility of Origin	County of Origin
94.04	GM Linden	Union
25.80	KMS Crossroad	Bergen

N.J.A.C. 7:27-18 requires offsets to be obtained from the regional nonattainment area, not the immediate community. This is because the impacts of the NOx and VOC emissions from NEC, both precursors to the formation of fine particles and ozone, occur mostly outside of Newark. The NOx and VOC react in the atmosphere to form ozone and particles over time. During that time, the wind transports the pollution downwind. The use of regional NOx and VOC emission reductions to offset emission increases results in a net air quality benefit to the region. Some of the offsets originated upwind of Newark which directly benefit Newark by reducing the precursors that lead to pollutants transmitted by the wind to the Newark area. When NEC had to obtain these offsets, the Department's emission credit bank did not contain any NOx or VOC emission credits from the Ironbound community, the City of Newark or Essex County. The offsets obtained by NEC comply with the regulatory requirement of being generated in the same nonattainment area as the proposed facility. Please see response to comments A1 and A2 regarding air pollution impacts of the proposed modifications. Since the proposed modifications do not result in additional emissions from NEC, N.J.A.C. 7:27-18 does not require additional offsets to be obtained at this time.

- 2) **Comment:** One commenter stated that NEC should mitigate the pollution that these changes bring into our community and since these changes cause potential threats to our public health and safety, NEC should support our first responders, which in this case is the municipality. (27)

Response: Please see response to comments A1 and A2, regarding increases in pollution from the NEC facility. NEC anticipates that the increase in cooling tower water treatment chemicals will require no more than 5-7 delivery truck trips to the facility per month. NEC has retained an

independent consultant, who has previously worked with the City of Newark emergency response personnel in developing emergency response plans for similar industrial facilities in the area, to develop a facility emergency response plan for NEC. This plan will be completed when the facility is fully operational.

L) Other Comments

- 1) **Comment:** One commenter stated that NEC should be required to provide the following before the modification applications are deemed complete:
 - a. Air modeling analysis of revised stack parameters, including all sources for all pollutants. The modeling should indicate how changes in stack parameter will affect the geographic distribution of air contaminants.
 - b. Analysis of sulfuric acid use as well as any other added chemicals to determine whether there is a risk of chemical release from the cooling tower.
 - c. The usage profile of the original volume of chemicals onsite and the new volumes requested by these modifications. Provide clarity on the amount of chemicals being delivered, including changes to the transportation and delivery of chemicals through the community, including the number of diesel trucks.
 - d. Updated Discharge Prevention, Containment and Countermeasure (DPCC) plan, Discharge Cleanup and Removal (DCR) plan and other City, Neighborhood, County and State emergency preparedness plans.
 - e. Information about new or additional hazardous air pollutants (HAPs) as a result of the requested modifications.
 - f. The location of offsets.
 - g. Timeline on construction, start-up and operation including chemical usage, delivery and monitoring.
 - h. Plans for a public process, including comments and meetings. (6)

Response:

- a. Please see response to comment A1 regarding changes in stack parameters. Please see response to comments B1 and B2 regarding the cumulative impacts modelling that was performed on the proposed changes.
- b. Please see response to comment A2 regarding the risk of emissions of sulfuric acid and other added chemicals from the cooling tower.
- c. These chemicals will be used on an "as needed" basis. The amount of chemicals necessary to treat the incoming water may vary, depending on the quality of the water received from PVSC. There is limited storage space for each chemical at the facility; once that capacity is reached no more chemical will be delivered to the facility until some of the existing chemical is used up.

There are no known regulatory restrictions on the route or frequency of trucks making deliveries to NEC. However, information previously received from NEC indicates that they anticipate receiving 5-7 truck deliveries per month.

- d. Please see response to comment D5 regarding the DPCC plan, response to comment D4 regarding the DCR plan and response to comment D3 regarding the emergency preparedness plan.
- e. Please see response to comment A7 regarding information about new or additional HAPs.
- f. Please see response to comment K1 regarding the location of offsets obtained.
- g. Construction of the NEC facility has been completed and the facility is now operating.
- h. A public comment period for both pending applications (permit activity BOP140001 and BOP140005) was opened on December 17, 2014 and closed on February 17, 2015. A public hearing for both of these applications was held in Newark City Hall on February 3, 2015.

- 2) **Comment:** One commenter stated that the proposed modifications raise community concerns once again, including fears that these significant changes will create additional pollution and public health burdens which will affect our community for decades to come. The commenter stated that significant permit modifications being requested so late in the development of the plant is extremely disconcerting and undermines the public's confidence in the approval process and the integrity of the plant's operations. (34)

Response: Please see response to comments A1 and A2 regarding the creation of additional pollution from the NEC facility as a result of these modifications. The Department has reviewed the applications and supporting documentation that was submitted by NEC and has determined that these changes comply with all applicable air quality rules and regulations.

- 3) **Comment:** One commenter stated that the Department has the responsibility to ensure that relevant questions are satisfactorily and positively answered by NEC, including:
- a. What impacts to air quality will these changes bring?
 - b. Has the Department requested NEC to complete new air modeling based on these changes? If not, why? How does the Department plan to ensure that NEC does not go over the significant impact level (SIL) for particulate matter?
 - c. Why are the additional chemicals needed? Why were they not included in the original plan? How will the additional chemicals impact air quality and public health?
 - d. How often will these chemicals be used?
 - e. Is there a plan to re-evaluate the treated water from PVSC in order to prevent the need for additional chemical use?
 - f. What are the company's disaster preparedness plans for spills and explosions, especially given the increase in chemical transportation and usage? Who is responsible for responding to the disaster; city, state or county?

- g. What are the first steps residents should take in the case of a spill or explosion? How will the public, in particular in a multilingual community, be notified in the case of an emergency? (34)

Response:

- a. Please see response to comments A1 and A2 regarding what impacts to air quality will be caused by these changes.
 - b. Please see response to comments B1 and B2 regarding modeling that was performed for these changes. NEC's permit limits were modeled in order to demonstrate that the SIL will not be exceeded as long as emission rates do not exceed these levels. Please see response to comment A12 regarding the particulate emission limits and monitoring requirements that are included in the permit.
 - c. Please see response to comment A2 regarding the need for additional cooling tower water treatment chemicals. Please see response to comment A2 regarding the impact of these chemicals on air quality and public health.
 - d. Please see response to comment A2.
 - e. NEC will continually monitor and evaluate the incoming water quality and adjust chemical additive rates as necessary to minimize chemical usage and ensure compliance with the operating permit is demonstrated. It is in NEC's best interest to minimize the use of chemicals in the cooling tower as NEC must purchase the chemicals used, therefore, additional chemical usage will increase NEC's operating costs. Additionally, over using chemicals could cause adverse effects to the equipment.
 - f. Pursuant to the Spill Act and the implementing DPHS regulations, NEC has an approved DCR plan that outlines the possible releases from the facility and the planned responses to such releases. The DCR plan includes information on the emergency response equipment and materials available to NEC and the personnel qualified to use it. NEC delineates what size discharges they will use on-site resources to respond to and also includes information on the discharge cleanup organization they have available to respond to anything larger. Thus, the first people responding to an incident at the facility would be facility personnel and contractors hired by the facility. NEC may request assistance from the local fire department or other municipal organizations, but the primary responsibility for addressing a discharge is with the facility. The use of local resources should be coordinated through the LEPC.
 - g. Community emergency response procedures, such as notification and evacuation, are the responsibility of the LEPC. The people who constitute the LEPC are those with the most thorough knowledge of the area and resources available and thus can make the proper decisions on how to best protect the members of the community from a given hazard and inform them about it.
- 4) **Comment:** One commenter stated that, because Newark is an environmental justice community, the Department should ensure that NEC:

- a. Develop and fund a mitigation plan agreed upon by the community. That would include support for municipal emergency services and hazmat units.
- b. Provide copies of all emergency preparedness plans to the municipality, Essex County, ICC, and public libraries. Ensure that surrounding residents are aware of evacuation plans.
- c. Provide public notification and hold a public hearing if requested for any permit modification, emissions overages, increase and frequency of use of the maximum allowable chemicals and/or plant operations. (34)

Response:

- a. Please see response to comment A6 regarding NJ regulatory requirements to mitigate emissions from NEC. Please see response to comments A1 and A2 which explains why these permit modifications will not result in any emission increases from NEC sources.
- b. In accordance with the Spill Act and EPCRA, NEC is required to coordinate emergency response activities with the LEPC. As evidenced by letters in the approved DCR plan, facility representatives have attempted to contact the LEPC and the Essex County Office of Emergency Management. The LEPC is then responsible for producing and implementing an emergency response plan which includes evacuation protocols, routes and possible mustering positions. Under EPCRA, the community being covered by such an emergency response plan should participate in its development and implementation.
- c. The Department provides public notification and a public hearing in accordance with New Jersey Regulations at N.J.A.C. 7:27-22. For a significant modification or renewal permit application, a public comment period (public notification and opportunity for public to provide comment on a project) is automatically provided. For a minor modification, a public comment period is only provided when the Commissioner of the Department determines that there is a significant degree of public interest in the application (N.J.A.C. 7:27-22.23(i)). A public hearing is only held if requested either by the public or, preemptively, by the applicant. In this case, the Commissioner of the Department determined that there was a significant degree of public interest in both pending applications so a combined public comment period and public hearing was held to allow the public to comment on both pending applications.

- 5) **Comment:** One commenter stated that the plant is located next to the Passaic River. Clearly, there is no acknowledgment of flooding from the sea level rise that we can expect to see. (4) Another commenter stated that during Hurricane Sandy we saw chemicals poison as the industrial section of the Ironbound flooded with water from the river going through the streets as well as into people's homes. The commenter stated that after an incident like that, the residents of Newark would hope that our government would be working to eliminate chemical storage in a flood zone. The commenter further stated that Newark is in a coastal area and is actually below sea level. (12)

Response: The site has been issued a flood hazard area permit by the Department's Division of

Land Use. During construction, the site was raised so that the buildings that house the hazardous chemicals are three to six feet above the 100-year flood level.

- 6) **Comment:** One commenter stated that the changes that are being proposed do not have the support of anyone in the community. The commenter stated that the changes are not a safe route for Newark and he does not approve of them because the only benefit that he foresees is the possibility of jobs being created. (26)

Response: The proposed permit applications comply with all applicable State and Federal Air Quality Regulations. Please see response to comment E3 regarding the Department's permit application review process and modelling that was performed during this process. In accordance with New Jersey's rules and regulations, the Department has reviewed and addressed all comments received during the public comment period.

- 7) **Comment:** One commenter stated that NEC should be held to the strictest air monitoring compliance and enforcement regulations. (27)

Response: NEC is required to perform initial stack testing for NO_x, CO, VOC, SO₂, TSP, PM-10, PM-2.5, CO₂ and Ammonia for each turbine with and without the duct burner operating and for NO_x, CO, VOC, TSP, PM-10 and PM-2.5 for the auxiliary boiler in order to demonstrate compliance with each of these permitted emission limits. Thereafter, NEC is required to perform stack testing every 5 years for NO_x, CO, VOC, SO₂, TSP, PM-10 and PM-2.5 for each turbine with and without the duct burner operating. Quarterly stack testing is required for PM-10 and PM-2.5 emissions from each turbine with and without the duct burner operating. Additionally, NO_x, CO, CO₂ and Ammonia emissions must be continuously monitored during operation of the turbine with and without the duct burner operating, in order to ensure continuous compliance with these emission limits. Please see response to comment G1 regarding enforcement of applicable requirements.

- 8) **Comment:** One commenter stated that the Department is supposed to protect the environment, yet it is not protecting the environment. The commenter stated that the Department took the information from NEC and accepted it blindly without questioning it. The commenter requests that the Department push beyond the existing law and be leaders in its own field and in its own department. The commenter stated that New Jersey is not at the head when it comes to environmental protection, yet it doesn't strive to be any better. (28)

Response: The Department reviewed NEC's applications to ensure that they comply with any applicable air quality rules and regulations. Where NEC's application did not provide enough information, the Department required NEC to submit additional information until it had

sufficient information to determine compliance with the applicable regulations. The Department made 3 requests for additional information regarding permit activity (modification) BOP140001 and 4 requests for additional information regarding permit activity (modification) BOP140005. NEC provided responses to all of these requests. In addition, NEC provided responses to comments and requests for information that were submitted by ICC and EELC during the Department's review process for these two permit applications.

The Department is required to operate within the limitations of State and Federal laws. The Department strives to get the most environmental benefit that the laws allow from all permit applications. The Department works with facilities to try to get more environmental benefit whenever possible, however, the Department cannot always require something if the law does not support that requirement.

The State of New Jersey is a leader in Environmental protection. New Jersey often leads other states in passing laws that require facilities to install advanced emission controls to reduce their emissions. For instance, in May 2009, New Jersey adopted new NOx RACT regulations that required several electric generating facilities to obtain NOx emission reductions on high electric demand days. This regulation also requires all high electric demand day (HEDD) electric generating units to comply with a much more stringent NOx emission limit by May 1, 2015, or cease operating. As a result of this "HEDD rule", 130 HEDD units in NJ are expected to shut down, 15 peaking turbines have installed additional NOx controls and 5 oil fired boilers have converted to cleaner natural gas firing. The State of New Jersey also encourages other States, particularly those "upwind" of New Jersey, to reduce regional emissions by commenting on rule proposals and permit applications in those states and by participating in organizations such as the Ozone Transport Commission (OTC) and Northeast States for Coordinated Air Use Management (NESCAUM).

- 9) **Comment:** One commenter expressed concern about what will happen when PVSC has downtime. This commenter asked where is NEC going to get water to use after that happens? (2)

Response: If PVSC were not able to supply the necessary water that NEC needs to operate its cooling tower, NEC would get water from the City of Newark. If no other water supply were available, NEC would have to temporarily discontinue operation until a suitable water source was secured.

- 10) **Comment:** One commenter stated that there needs to be more investment in local health clinics to address the impact we are seeing in public health. (4)

Response: Investment in local health clinics is outside the scope of the Department's review of

these permit applications. The Department of Health should respond to public health concerns.

11) **Comment:** Several commenters stated that the Department needs to protect Newark resident's health, community and environment. (21,22,35, 37, 40)

Response: The Department evaluates any permit application that is submitted and approves or denies the application based on its compliance with applicable State and Federal air quality rules and regulations. Please see response to comment H3 regarding the Department's commitment to protecting Newark resident's health, community and environment.

The following changes have been made to the draft permit as a result of public comments and Department-initiated changes.

Department Initiated Changes to Permit:

- 1) The stack height for the emergency generator and fire pump has been maintained as per the initial operating permit. Please see "Emission Points Inventory" in the proposed permit for stack parameter details for each emission stack at the NEC facility.
- 2) GR1, REF #5 requires monthly calculations to be performed to determine the sum of all sulfuric acid emissions from the facility, in order to demonstrate compliance with the facility wide cap of 10.57 tpy. The boiler was inadvertently left out of the calculation in the draft permit but has been added in to the proposed permit.
- 3) Change the recordkeeping frequency of the facility wide annual emission limits for VOC, SO₂, SO₃ and H₂SO₄, TSP, PM-10 and PM_{2.5} (GR1, REF #3, 4, 5, 6, 7 and 8 respectively) from "annual" to "monthly". This change was made in order to make the recordkeeping frequency of these requirements consistent with the monitoring requirement.
- 4) Change the monitoring and recordkeeping frequency for the cooling tower annual TSP, PM-10 and PM_{2.5} emission limits (U2, OS Summary, REF #3, 4 and 5 respectively) from "annual" to "monthly" (each month compliance must be demonstrated by adding up the total emission for the previous 12 calendar months). This change was made in order to make the monitoring and recordkeeping frequency for the annual cooling tower emissions consistent with the monitoring and recordkeeping frequency of the facility wide annual emission limits for TSP, PM-10 and PM_{2.5} (GR1, REF #6, 7 and 8 respectively).
- 5) Change the value of the cooling tower circulation water flow rate in the monitoring requirement for the hourly TSP, PM-10 and PM_{2.5} emission limits (U2, OS1, REF #3, 4 and 5 respectively) from "178,000" to "220,870". This change was made in order to make the cooling tower circulation water flow rate consistent with the permit limit (U2, OS1, REF #1). The permit limits for allowable emissions of TSP, PM-10 and PM_{2.5} are not affected by this change. This change only affects the calculation of these pollutants which is made in order to demonstrate compliance with the permitted emission limits.
- 6) Change the rule citation for (FC, REF #16) applicable requirement and submittal requirement from N.J.A.C. 7:27-22.16(a) and (o) respectively to N.J.A.C 7:27-22.3(jj).

